FIXING THE ROOT BUG

The Simple Hack for a Growth-Independent, Fair and Sustainable Market Economy 2.0

PIONEER EDITION

TUURE PARKKINEN

Fixing the Root Bug

The Simple Hack for a Growth-Independent, Fair and Sustainable Market Economy 2.0

Why getting rid of "jobs" (a human being as the unit of labor), the zero lower bound of interest rates and private monopolies – most notably that of untaxed land ownership – would solve most of our economic, social and environmental challenges and how it could be done easily and feasibly.

Tuure Parkkinen

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For my goddaughter Tiitu
who has a lot less to unlearn than most of us.

PHOTO: HEINI LINDVALL

About the author

Tuure Parkkinen is an institutional entrepreneur,
a philosophical economic engineer
and a generalist passionate about asking relevant questions.

He has studied industrial engineering and strategic management
at Aalto University, successfully turned around an HR company
and seen many industries and types of work.

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"I ask no one who may read this book to accept my views. I ask him to think for himself. Whoever, laying aside prejudice and self-interest, will honestly and carefully make up his own mind as to he causes and the cure of the social evils that are so apparent, does, in that, the most important hing in his power toward their removal." ... "Until there be correct thought, there cannot be right ction; and when there is correct thought, right action will follow." – Henry George, Social Problems 1883, p. 326-327)

"Peter Drucker made a very fundamental distinction between doing things right and doing the right thing." ... "Doing the wrong thing right is not nearly as good as doing the right thing wrong." ... "The difference between efficiency and effectiveness is the difference between knowledge and wisdom." – Russ Ackoff[1]

"Simplicity: In a world of uncertainty, complex problems do not always require complex solutions."... "It's basically robustness. You need something that works in an uncertain future – not something that is optimal in the past." – Gerd Gigerenzer[2]

"If you want to be a whistleblower you have to be prepared to lose your job. I'm able to do what I'm doing here because I'm nobody. I don't have to keep any academics happy. I don't have to think about the possible consequences of my actions for people I might admire personally who may have based their work on this and they end up looking silly." – Nick Brown[3]

"If you're not prepared to be wrong, you'll never come up with anything original." – Sir Ken Robinson[4]

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1 10:45-> & 11:42->, "If Russ Ackoff had given a TED Talk...", a presentation in 1994, viewed 16.10.2013, http://www.youtube.com/watch?v=OqEe-lG8aPPk

2 3:20->, Gigerenzer, Gerd, "What Can Economists Know? 2/5", lecture, viewed 20.8.2013, http://www.youtube.com/watch?v=DdEEwoKk-fMA&nomobile=1

3 Andrew, Anthony, "The British amateur who debunked the mathematics of happiness", The Guardian, 19th Jan 2014, cited 19.1.2014, http://www.theguardian.com/science/2014/jan/19/mathematics-of-happiness-debunked-nick-brown

4 5:39->, Robinson, Ken, 2006, "How School Kills Creativity", TED Talk, viewed 16.5.2014, http://www.ted.com/talks/ken_robinson_says_schools_kill_creativity

PREFACE

If I you asked me why I wrote this book, I might reply that "it was an accident" – or that "I had to". Both replies would be equally truthful.

In the fall of 2011, I was granted the opportunity to give a talk on a subject I considered important. For some reason, I decided to return to a question that had bothered me for almost 10 years but that I had suppressed, mostly out of frustration:

Why are we trying to create more work just to allow everyone to participate in the labor market? Why is the unit of labor a human being? Why can't increased productivity alternatively lead to people simply working less instead of more products and services? And shouldn't the choice between these be a matter of personal preference? How does "creating jobs" to keep people employed make more sense than creating dirty dishes just to maintain the same amount of dishwashing shifts after getting a dishwashing machine? Regardless of whether we want economic growth or not, shouldn't our priority be getting rid of our *dependence* on such growth?

While running an HR services company, I had become slightly hooked on the creative nature and thrill of entrepreneurship – and I knew that I wanted to develop and sell solutions. During the spring following the talk, encouraged by the interested feedback from the audience, I became quite certain that the above questions and the initial answers to them were the seeds of the solution that I had to develop and "sell". There wasn't much else that I believed in more – and the upside potential of any mobile app startup wasn't even comparable.

An intended two-month project ended up being a miraculous and exciting two-year discovery venture: reading classics and more recent papers on economics, finance, psycholinguistics, positive psychology, sociology, ecology, work life research etc.; debating in discussion groups; interviewing experts and representatives of political institutions; watching talks, panel discussions and interviews; making videos, drawing graphs; and writing and rewriting.

I had newly found the state of unquenchable inquisitiveness that I'd had as a child – I might call it "epiphanitis". It was like a drug – an addictive and consciousness-expanding one.

My studies of course lead to further questions. And asking the relevant questions remains the most important thing for me and this book, even among many interesting and promising answer suggestions. Below are some questions this book discusses in addition to the initial one – some of them rhetorical (in *italics*), some less so.

- Where does the profit requirement of capital come from? How is saving productive? *Why should capital make a profit, even when there is a chronic oversupply of it?*
- Why do lower interest rates pump up real estate prices specifically? Why don't lower rates make people borrow excessively for any other asset just as well? Is there some special value component in real estate that we're not seeing?
- *Is there really a (natural) conflict between labor and capital?* Or maybe only between monopolies and everyone else? Could our "class conflicts" be artificial?
- *Are cartels, blackmail and limiting others' choices really the way to make things "fair"?* Or would it maybe work better to maximize people's options – their positive freedom?
- *Can we really achieve sustainable economic security with restrictions and rigidity? Is hardness strength?* Or is it maybe that flexible things are robust (and "antifragile")?
- *Why do we want earning opportunities for ourselves, but then consider it "socially irresponsible" giving them to people in developing countries, who are even more desperate for them?* Isn't that just selfish? *Why do we want to restrict borrowing (including consumption loans) in our own countries, but promote microloans for people in developing countries and loans part of 'foreign aid'?*
- *Are positive current accounts sustainable? Can everyone sell more than they buy at the same time? How do you sell without a buyer?*
- What are the fundamental pitfalls of a completely "free" market?
- Why do we need a central government or state at all? And if we do, what should its role be? And is democracy (equal participation in collective decision making) really the fairest and most efficient way to run such a state?
- *If the government wants more economic growth, why is it taxing transactions?* If it is a value-producing

entity, can't it fund itself by charging for the valuable services it provides – including the ownership of natural monopolies, where private competition doesn't work – and by penalizing participants for imposing negative externalities on others?

– Why do we need to own things and trade? Why can't we just live in empathic, cooperative harmony, all seven billion of us? How well can you measure your own and others' needs and values without having to trade or make choices in trade-off situations?

– Why do we need money? And what is this "money" thing anyways?!

– And the purpose of (the) life (of an individual) and the existence of mankind? What makes life really worthwhile? Pleasure? Satisfaction? The absence of pain? "Freedom"? (And is there really such a thing as freedom?) Or perhaps feelings of connection and belonging, and a sense of control, progress and purpose?

And yes, it is a long book – I know. But don't look at the number of pages: Look at the table of content (with its "action titles") and pick what sounds interesting. It is modular, so you don't need to read all of it. It is more a structured wiki-like blog than a one-topic self-help book or a Malcolm-Gladwell-style popularization. Or you could think of it as an old school text adventure game! An "adventure" is how I would best describe the process of writing it – and I hope I have managed to make reading it even more so. This book has reshaped my worldview many times over. I hope it helps you polish yours and gives it a couple of new angles.

You can make your own route along the cross-references. And chapters have "in short" summaries. The "Introduction and Overview" and section "2.3 The Solution of the Root Bug Hypothesis" might be good places to start for an impatient reader.

"Many of the best ideas come out of personal frustration." – Richard Branson[5]

5 27:05->, 2013, "Elon Musk and Sir Richard Branson Hangout on air", viewed 1.8.2014, https://www.youtube.com/watch?v=Vy9y_YSpYxA

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There is little one can achieve alone. Though this book is not a prime example of the potential of the division of labor[6], there are many people and groups to whom I am grateful.

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Thanks to all of the professors and other experts I've talked with for great source hints and a generally encouraging attitude – though most of all to the Aalto School of Science's vice dean and economics professor for convincing me that I had to do this by asking me, upon hearing of the hypothesis, why anyone would ever believe anything I try to explain and why I wouldn't rather use my "entrepreneurship" on "something productive".[7]

And, lastly but not least importantly, thank *you* – for being a pioneer and buying this book. Your support allows further developing the solutions and ideas presented here – independently of the self-preservation agendas of any incumbent institution.

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6 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

7 See: "5.2 Academic Economics Is Important – But It Is Not An Innovator".

INTRODUCTION AND OVERVIEW

For the past century or so, the basic dilemma of economic policy has been thought to be the one between promoting the increase in total wealth[8] (or income) and the equality or fairness of the distribution of that wealth (or income) on the other.[9] The emphasis between these is also one way to make the *economic* split into the "right" and "left" wings in politics[10] – the right primarily focusing on maximizing total wealth and economic freedom, the left primarily concerned with economic equality and security.

Towards the end of the 20th century, another dilemma crept alongside this one with the emergence and fortification of the "green" political movement: the dilemma between economic development – which seems to demand increased consumption[11] of goods and services and hence also increased use of natural resources – and the concerns for environmental sustainability, which seem to call for decreased "consumption". These tradeoffs/dilemmas as well as economic instability (business cycles and asset market bubbles), the seeming necessity of unemployment,[12] constant polarization of both income differences and the concentration of wealth into fewer and fewer hands are often considered to be inherent properties of capitalism or any market economy.

This book suggests that these dilemmas and flaws are the result of a few simple, overlooked market imperfections and especially the resulting *dependence* on growth[13] – not economic growth or economic activity in itself – and that fixing these "bugs" would largely solve both of these dilemmas: facilitate maximal *desired* economic growth and allow keeping that growth environmentally sustainable while maximizing individual (positive) economic freedom and almost obliterating unfair income differences and income insecurity.

It proposes that the normative discussion of whether we should attempt to maximize or minimize growth in economic activity[14] is wholly irrelevant.[15] How much people want to do paid work (their own specialized activity[16]) and buy goods and services produced by others should be a matter of personal preference, as long as:

- keeping others in debt against their will (usury) is prevented (by the interest rate mechanism),
- environmentally unsustainable means and imposing other externalities on others is banned or sufficiently penalized[17] and
- there are no chances of extortion through monopolies and other privileges.

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8 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

9 E.g. in Finnish political discourse, it is common to talk metaphorically about "growing the cake" and "splitting the cake". However, the expressions are often used quite vaguely with no clarification of whether "the cake" refers to real income, total wealth, government tax revenues or something else – which confusingly bundles all of these things together (see: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'"). Also Goldman Sachs CEO Lloyd Blankfein uses this "growing the pie" rhetoric in attempting to voice his concern for income inequality:
- 0:43->, Zeitlin, Matthew, "Goldman Sachs CEO: 'Income Inequality Is A Very Destabilizing Thing In The Country'", It cited 12.6.2014. http://www.buzzfeed.com/matthewzeitlin/goldman-sachs-ceo-income-inequality-is-a-very-destabilizing

10 There are of course many different "right-left" splits. The term originally refers to the seating arrangements in the French parliament after the Revolution: aristocrats and clergy (vested interests) on the right and the bourgeoisie (reformers) on the left. This somewhat resembles the "conservative-progressive" split we see in the U.S. today. Another, more means-oriented ideological split into the economic "left" and "right" can be made according to how big a role one thinks that the state should have in the economy. However, in many countries it is practically an interest-group-political split.
"[The left-right-division's] birth and sporadic use during the French Revolution were a false start because, although it distinguished opposed political groupings in the legislatures (initially those for and against the King's suspensive veto), the predominant preoccupation during this period was to abolish all political divisions." (Lukes 2003, p. 7)
"Thus sociologists have focused on the social bases of voting, such as class; psychologists on attitudes or personality traits; and political scientists on orientations towards policy, such as governmental intervention in the economy." (Lukes 2003, p. 12)
"Perhaps what unifies the left as a tradition across time and space is its very rejection of the symbolic hierarchy and the inevitability of the inequalities it sanctifies." ... "Its distinctive core commitment is to a demanding answer to the question of what equality means and implies." (Lukes 2003, p. 13-14)
"The left is, on this account, a critical, strongly egalitarian project which, however, allows for successive and varying interpretations and reinterpretations of what unjustified inequalities consist in and of how – through what methods and programmes – they can be reduced or eliminated." (Lukes 2003, p. 16)

11 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

12 See: "3.1.3 Structural Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

13 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

14 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

15 See: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

16 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

17 See: "3.4 Environmental Sustainability".

Regardless of whether we want more or less of a kind of activity, getting rid of a possible *dependence* on a constant increase in such activity should be our first priority. We need an economy that is able to adapt to all kinds of preferences people might have over spending their time and efforts – one that truly balances supply and demand.

The book presents – for inspiration and critical scrutiny – the Root Bug hypothesis, along the analogy of a programming "bug" (an unintended functional flaw) in an otherwise efficient operating system, causing many undesirable effects as well as "accidental complexity" resulting from attempts to treat its symptoms. The hypothesis is supported by existing research in many scientific fields and it can be expressed in many different frameworks and models.

The actual "Root Bug" is the fact that earning opportunities (work) aren't allocated to people (in the mid-term) according to their willingness to spend and invest.[18] People's willingness to spend and invest is essentially their desire to *give others* earning opportunities by consuming goods and services others produce and by carrying the risks of companies and other ventures and projects involving real investments. In other words, the problem is that supply does not meet demand in the labor market on the individual level – and this mismatch increases (in the form of involuntary unemployment) when total demand for labor decreases.

This is caused by the rigid quantization of labor into "jobs" and "employees", which is fundamentally caused by the fact that it is not profitable for employer companies to share work among multiple employees – but instead to always pile any work on as few people as possible. Partly this is the result of "natural" overhead costs (e.g. training and management),[19] but it is further enforced by current labor legislation and our sticky, outdated and self-contradictory work ethics[20] that guide management styles, company cultures and especially political decision making,[21] as well as by incumbent institutions that are dependent on this insecure and unfair labor market situation to justify their own existence.[22]

Additionally, aggregate supply and demand[23] cannot be kept in balance (without public deficit spending[24] or indebting other national economies[25]), because interest rates cannot drop low enough. As the return on the risk-free investment options – bank deposits and government bonds – affects the profit requirements of all other investments, this "zero lower bound" of interest rates is practically a minimum wage for capital.[26] Also, the fact that the government guarantees deposits for free is a massive subsidy to unproductive saving, holding excess (destabilizing) liquidity and makes it profitable for banks to overleverage themselves.[27]

Negative interest rates aren't even considered in mainstream political discussion – and very little in economics. One reason for this is that "interest" is misleadingly perceived as "rent for money", and money is perceived as some kind of commodity (like a physical good) instead of a credit relation[28] (as money explicitly is in our current system). Hence, the possibility of it being negative can be counterintuitive. A second reason is that recent real estate bubbles are blamed on too low interest rates – even though it has been known for centuries that land (the location value of real estate) is a natural monopoly resource and hence prone to bubble in any case. Lowering the profit requirements of capital (the interest rate) just escalates these bubbles.

The possibilities of extortion and reaping unearned income ("economic rent") through such private monopolies as well as the resulting inefficient utilization of these resources is – together with the "actual Root Bug" – the other major flaw in our current "market economies" and the other half of the "What" part of the Root Bug hypothesis[29].

Most mainstream economic theories and policies aim at increasing total demand to ensure that the whole population remains fully employed.[30] But this becomes increasingly difficult, as the marginal value of new products and services compared to that of free time and economic security constantly decreases with the improvement in living standards – and as people are feeling more and more guilty about "consumption" (a commonly misunderstood and strongly emotionally

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18 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
19 See: "4.1.2.1 Why Sharing Work Is Not Profitable or Otherwise Viable".
20 See: "4.1.6.2 Making Sharing Work Socially Acceptable" and this book's sister, "The Guilt Economy".
21 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
22 See: "3.2.3 Unionization and Strikes" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".
23 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
24 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".
25 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage" and "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".
26 See: "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash" and "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
27 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".
28 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".
29 See: "2.3.5 Structure of the Root Bug Hypothesis".
30 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

charged economic concept[31]). Instead of trying to manipulate people into spending more, it would make much more sense to look for ways to direct earning opportunities to people according to their willingness to spend and invest (see: Graph 24 on page 252). And this would not require any central planning or restrictions, but could most efficiently be achieved with simple incentives that would leave the difficult work of optimal "task allocation" to fair supply and demand and competition between companies.[32] This includes on what "level" and time scale the flexibility occurs: as shorter days, fewer areas of responsibility, longer holidays or sabbaticals between positions.[33]

The fact that sharing work is not profitable (on any time scale) is a market imperfection.

The economy can be made self-stabilizing, fair, sustainable and independent of growth – but allowing just as much growth as people really want – simply by:

- making it legal, socially acceptable and profitable for employers to share work among multiple employees (i.e. give them the opportunity work less and rather reduce labor "within people"),[34]
- facilitating negative interest rates to prevent excessive hoarding of risk-free monetary assets (keeping others in debt against their will),[35]
- imposing a proper fee on the government guarantee of bank deposits,[36]
- taxing land – the location value of real estate – to ensure efficient use and prevent hoarding,[37]
- taking natural monopoly industries into public ownership and prevent private cartelization[38]
- and removing all unnecessary price regulations – especially in the labor market[39] – and other obstacles to mobility (such as limited education opportunities[40]).

The structure of the current formulation of the Root Bug hypothesis is presented in Graph 0 (same as Graph 25 on page 258).

The Root Bug hypothesis can help achieve the normative ends of many different societal ideologies,[41] but we also suggest a new, "game design perspective"[42] (NOTE: *not* the same as "game-theoretical") into what an economic system should facilitate. It combines some aspects of the consequentialist libertarian premise of maximizing positive freedom for individuals with the Rawlsian requirement for a "veil of ignorance" and the latest insights from positive psychology into what really makes a human life worthwhile, rewarding and valuable.[43]

This perspective – and stepping outside the box of traditional, interest-group-oriented compromise politics, which has made a democratic[44] government largely a "job creation" (waste) and "transfer payment" (stealing) machine – suggests that a central government serves its citizens best by serving as a common ownership vehicle for limited, vital resources and natural monopoly industries[45] and that its revenues should largely come from profits, fees and rents from these rather than transaction taxes (e.g. taxes on labor, VAT, corporate taxes, capital income taxes etc.), on which current taxation models are largely dependent.[46]

This superiorly efficient and competitive taxation system makes fixing the Root Bug a feasible option for any country (or region with a sovereign currency) to implement without any broader international consensus. It would be a strategy competitive enough to almost force others to follow suit.[47] In this aspect, it differs from many other, more drastic suggestions for reshaping the economic system, which would often require either global consensus[48] or isolating the system from the rest of the world economy and then tearing down most existing structures to start building a new system from scratch. This, however, does not mean that current structures and institutions – starting from private property, credit

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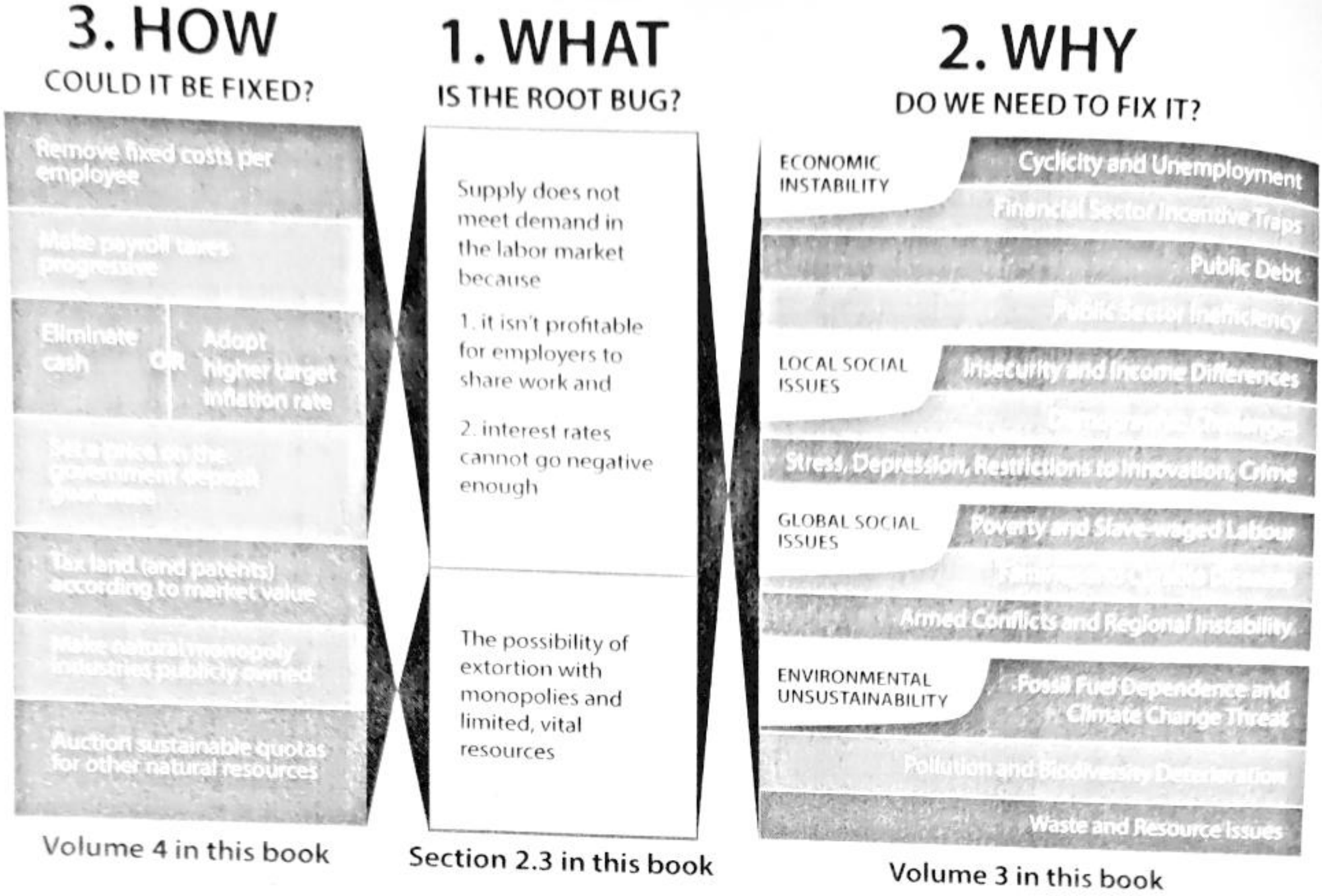
31 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".
32 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
33 See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant" and "4.1.6.1 Technological Advances Increasing Flexibility".
34 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".
35 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
36 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
37 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
38 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".
39 See: "2.2.3.3 Wage Regulation by the Government – All or Nothing".
40 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

41 See: "2.1 Normative Principles – What Do We Want from an Economic System?".
42 See: "2.1.6 Conclusions – How about a Game Design Approach?".
43 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
44 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
45 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".
46 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".
47 See: "3.5 A Competitive Option and Dominating Strategy".
48 Compared to e.g. Thomas Piketty's suggestion for a "global wealth tax": "3.1.2.3 'Lack of Growth Increases Inequality' – Piketty's 'r>g Dilemma' Solved".


3. HOW
COULD IT BE FIXED?
Remove fixed costs per employee
Make payroll taxes progressive
Eliminate cash
OR
Adopt higher target inflation rate
Set a price on the government deposit guarantee
Tax land (and patents) according to market value
Make natural monopoly industries publicly owned
Auction sustainable quotas for other natural resources
Volume 4 in this book
1. WHAT
IS THE ROOT BUG?
Supply does not meet demand in the labor market because
1. it isn't profitable for employers to share work and
2. interest rates cannot go negative enough
The possibility of extortion with monopolies and limited, vital resources
Section 2.3 in this book
2. WHY
DO WE NEED TO FIX IT?
ECONOMIC INSTABILITY
Cyclicity and Unemployment
Financial Sector Incentive Traps
Public Debt
Public Sector Inefficiency
LOCAL SOCIAL ISSUES
Insecurity and Income Differences
Stress, Depression, Restrictions to Innovation, Crime
GLOBAL SOCIAL ISSUES
Poverty and Slave-waged Labour
Armed Conflicts and Regional Instability
ENVIRONMENTAL UNSUSTAINABILITY
Fossil Fuel Dependence and Climate Change Threat
Pollution and Biodiversity Deterioration
Waste and Resource Issues
Volume 3 in this book

GRAPH 0: THE STRUCTURE OF THE ROOT BUG HYPOTHESIS. (SAME AS GRAPH 25)

relations, trade, and even human cooperation – have not been *questioned*.[49]

Ways to incentivize employers to share work – make them compete over employees regardless of the total demand for labor – include removing all possible legal fixed costs and liabilities per employee and implementing continuously progressive labor taxation after a tax-free "hand-to-mouth income" as a Pigovian tax on the harmful economic and social externalities of piling up work on fewer people.[50]

"Conventional" central bank monetary policy[51] is already controlling the profitability of saving money (holding risk-free credit[52]) and the cost of being in debt with the central bank's policy interest rate (although outdated monetarist and New Keynesian models don't see this). But the trouble is that nominal interest rates cannot fall below 0 % (which is what currently would be needed to halt the chronic oversupply of capital), as this would result in hoarding cash as a safe haven. This zero lower bound problem could be solved by making the central bank's target inflation rate higher, for example 6 %, which would allow making real interest rates negative enough to encourage investing, spending or sharing work and thus prevent excessive saving as money and other monetary instruments[53] – i.e. keeping others in debt against their will.[54] This would also allow charging for the government guarantee on bank deposits, making hoarding money (unproductive capital) even less profitable and encouraging banks to remain transparent *and* solvent to receive cheaper, risk-bearing credit finance.[55] Alternatively, physical cash could be eliminated to allow negative interest rates nominally.

49 See e.g.: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources", "1.1.7 Ownership as a Bundle of Rights" and "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

50 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".

51 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

52 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

53 See: "4.2 Preventing Excessive Monetary Saving – Allowing Monetary Policy to Balance Aggregate Supply and Demand".

54 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

55 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

In developed economies, the development of electronic banking and payment systems has almost rendered cash obsolete already.

There is a lot of confusion in regard to "inflation", its causes,[56] and its effects[57]. Many of the arguments demonizing inflation in general are confusing steady and predetermine inflation with unstable, unpredictable, and sudden inflation.[58] The latter kinds are rightfully criticized and feared, as they cause unnecessary uncertainty and unjust wealth transfers. Price *development* stability should not be abandoned and "anchoring" inflation expectations is important – but they don't need to be anchored at 2 %.

Economists have recognized the monopoly nature of land for centuries. Some have also been aware of the fairly obvious solution of a "land value tax" (LVT), which would ensure that hoarding land is not profitable and that it is always kept in the most productive use available. But this seems to have been forgotten completely in modern political debate. This book provides a slightly enhanced solution to the land taxation issue and explains how a joint rollout with negative interest rates can help overcome some of the biggest political challenges impeding the implementation of LVT.[59]

In light of economic research up until today and a combination of existing economic frameworks, the suggested solution would be superior to any previously attempted one in providing maximal growth potential within the limits of people's consumption preferences and productive capacity as well as environmental constraints – while eliminating the system's growth *dependence*.[60]

Simultaneously, it would minimize economic insecurity and eliminate unfair income differences by diversifying risks and maximizing social mobility.[61] Current public policies are aiming to find a compromise between flexibility – which companies need – and security – which employees need. However, the apparent conflict between these is largely a result of the "hardness is strength" illusion and propaganda by the self-preservation-focused trade union institution, which has every interest in keeping the position of employees (especially non-union-members) insecure.[62] In a dynamic environment, sustainable security can only be found in flexibility and adaptability. Also the idea that fairness could be achieved through blackmail and the idea of "solidarity" in the meaning of joining in on your friend's blackmail against everyone else, are strongly questioned. As an alternative approach, we propose "mosh pit solidarity".

Fixing the inefficiencies combined with providing affordable, unlimited education opportunities would maximize social mobility and obliterate a "class society" within the limitations of cultural and societal factors and people's inherent productive capabilities and preferences. The simple solution to interest group conflicts is to give everyone the free choice of which group to belong to and abolishing artificial privileges.[63]

Getting rid of the dependence on growth would also remove the need for nations to fight the two-faced, mercantilist "economy war" where all of them are trying to indebt each other by any means, just to keep their own citizens employed while maintaining their God-given right to save.[64] Until we can end this war, we cannot solve poverty with all its nasty side effects (overpopulation, famines, slave-waged labor etc.), as we cannot allow developing countries to become competitive.[65] The book attempts to show how the current foreign aid practices of Western countries are mostly either hypocritical charity or cunning neocolonialism – or both – as long as their objective is to keep their own current accounts positive.

We also present some simple solutions to some of our most pressing environmental sustainability challenges, including global warming and biodiversity deterioration.[66] Solutions that would be fast and feasible to implement and would have minimal social and economic costs if our economies weren't dependent on economic growth, having to stimulate it by any means – including the economy war.

This book refuses to categorize itself into a "left-wing" or a "right-wing" perspective. Firstly, because there are multiple such "left-right" splits or axes[67] and therefore these categories quite carelessly bundle together very

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56 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

57 See: "4.2.4 Common Concerns with and Objections to Negative Rates or Higher Inflation" and "4.2.3 Other Benefits of Higher Inflation or Negative Nominal Interest Rates".

58 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

59 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

60 See: "3.1.2 Other Scapegoats for the Mystical Growth Dependence".

61 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

62 See: "3.2.3 Unionization and Strikes".

63 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

64 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage" and "3.3.1 Solving Poverty for Good – Ending the Economy War".

65 See: "3.3 Global Social Issues".

66 See: "3.4 Environmental Sustainability".

67 See footnote 10 for some different left-right divisions. This book does not prioritize between maximal prosperity and maximal economic security (see: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility"). It also opposes the whole idea of interest-group politics. In the "size of the state" split, it could be considered to be "on the right", as a "pro-market" approach, but the state is given a new kind of role (more on this coming up). On the other hand, in the "progressive-conservative" split it could be considered to be on the "left", as it strongly questions existing institutions and the sense in focusing on maintaining achieved privileges.

different types of values and orientations. Secondly, because there are arguments in this book that could surely be used by almost any political faction to criticize its opponents. A devoted leftist would probably consider the Root Bug perspective to be on the "far right", as it for example strongly opposes collective bargaining in the labor market and suggests removal of minimum wages and other restrictions in the long run and as it doesn't in any way demonize, punish for or limit profits made on capital investments or individuals' possibilities of gathering material wealth in general. This conclusion would be omitting the fact that the suggested model strongly opposes unfair income differences and economic insecurity – it just provides a completely different approach to these issues than is in the left-wing tradition. It explains how many current left-wing policies are actually maintaining higher capital incomes and how these could be lowered much more efficiently by eliminating monopolies and removing the "minimum wage" capital currently has. We could even say that fixing the Root Bug realizes the objectives of anarchist communism better than the abolition of private property would.[68]

A devoted rightist would probably consider the Root Bug perspective to be on the far left, as it suggests progressive taxation of labor (and even more controversially moving this progression nominally on the employer) and higher inflation targets allowing negative interest rates that could decrease the profit requirement of all capital investments. Judging these as socialist policies would be omitting the fact that their purpose in the suggested system is not to transfer any unearned income from people working or carrying productive risks to risk-averse slackers, but to encourage giving more work to those most eager to spend and invest – which would also allow more economic growth (and work), instead of discouraging work like progressive taxation usually tends to do. The suggested policies are meant to fix the imperfections of a completely free market and get supply and demand to work even more efficiently.[69] Just like overly generous social support and the minimum wages on labor are keeping more people unemployed, the "minimum wage of capital" and unnecessary subsidies are keeping a lot of capital "unemployed" unnecessarily.

This seeming contradiction is explained by the fact that the proposal is *not* the result of an attempt to find a *compromise*. Rather, this book questions some deeply entrenched assumptions and means that have become objectives in themselves and attempts to find solutions to economic challenges by deducing and inducing them as directly as possible from existing research findings in economics, psychology, marketing[70], finance, game theory, system dynamics and a range of other scientific fields. Neither does it stick to an ideological set of objectives, but considers the objectives of many different normative stances and discusses what sorts of modifications of a "root-debugged" economy would best allow meeting those.

It is quite a straightforward "pro-market approach",[71] in that the suggestions could be summed up as:

- Remove unnecessary subsidies and price limitations
- Eliminate monopolies
- Set proper prices on externality costs.

Where it differs from many other pro-market books, is that it points out a few externality costs previously not identified as externality costs[72], monopolies not recognized as monopolies in today's economic discussion[73], a major price limitation that is not seen as a price limitation[74] and some subsidies where we don't see who is actually subsidized and on whose expense.[75]

Fixing the Root Bug is to economic engineering and societal design what Bruce Lee's Jeet Kune Do is to martial arts – eclectically combining different "systems" and "techniques" without being bound by them, abandoning orthodoxy and dogma, constantly evolving and focusing on simplicity and effectiveness. It is therefore an act of heresy[76] – and a 'hack':

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68 See: "2.1.3 Anarchist Communism: 'Everyone According to His Ability, to Everyone According to His Needs".

69 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

70 See: "6.1.2 Appendix 1.2: Different Types of Value Products Provide" and "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive" and "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

71 For the difference between "pro-market" and "pro-business", see: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

72 Most notably the piling up of work on fewer people, which is efficient for an individual company but not the whole economy. See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

73 Most notably the private ownership of location, land. See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding" and "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".

74 Most notably the zero lower bound of interest rates. See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

75 E.g. how the free deposit guarantee is a subsidy to all capital or how accommodation support is also a subsidy from all other rent payers to real estate owners. See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking", "4.2.2 Setting a Fee on the Government Deposit Guarantee" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

76 "2. a : dissent or deviation from a dominant theory, opinion, or practice

b : an opinion, doctrine, or practice contrary to the truth or to generally accepted beliefs or standards"

– "Heresy", definition, Merriam-Webster dictionary, cited 19.5.2014. http://www.merriam-webster.com/dictionary/heresy

"The idealised hacker combines rebellion and creation into a seamless disruptive act, using each to power the other." ... "The Hacker Ethos often entails using things in ways they're not supposed to be used, thereby disrupting them through creativity." ... "Many hacker approaches attempt to blend three categories of action:

1. **Exploring**: *Empathetically* getting to know the nuances of systems, and gaining access.
2. **Jamming**: *Rebelliously* and *mischievously* seeking out the systems' vulnerabilities and exposing them.
3. **Building**: *Creatively* seeking to recombine the elements of systems to create something new." ...

> "The mark of hacking is the attempt to power each of those impulses with the energy of the others." (Scott 2013, p. 8-9)

If a point of comparison to previous political ideologies and societal solutions is needed, the ideas of Henry George would probably hit the closest.[77] Similarly, Henry George was seen as a *laissez-faire* capitalist in the eyes of socialists, while to some libertarians Georgism is just another branch of communism. In the spirit of Henry George, this book is strongly opposed to monopolies, cartels, (hostile) protectionism, mercantilism and privileges and rejects the idea of an inherent conflict between labor and capital (although e.g. a cartelized labor market or a commodity money system can create and sustain such a conflict[78]).

But the ideas presented here are not of Georgist origin. Despite drawing attention to land value taxation, we are not advocating a "single tax" policy,[79] for which Georgists have become most famous. We also assess the possibilities of private individuals and institutions to extort each other through, not only "land", but also contractual means, like monetary systems – accounting systems of credit relationships – and legal restrictions like intellectual property rights.[80] We also do not advocate a dogmatic distinction of "land" from "capital".[81] Dependence on individual frames and vocabularies and drawing normative or decisive conclusions from the definitions of concepts are things this book seeks to avoid. Silvio Gesell's *Freiwirtschaft* and his idea of the "Natural Economic Order" (1916) are also related to the Root Bug hypothesis in that both focus on imperfections created by limited natural resources and monetary systems. However, the solutions of the Root Bug hypothesis are better adapted to an urbanized economy and the possibilities that modern technology grants for an efficient electronic credit money system (while Gesell lived in the "medium of exchange" world[82]).

The book is split into 5 "volumes" and a set of appendices. Each volume is split into 3-5 "sections" (e.g. "2.1"), which are split into a number of "chapters" (e.g. "1.3.1"). Some chapters have further "subchapters" under them (e.g. "4.2.4.5"). Although the book attempts to form a continuous storyline, it is also "modular" so that each chapter works almost as a standalone essay and chapters containing needed background information are cross-referenced. Therefore, instead of reading the whole thing in the printed order, you can also dig into subjects according to your momentary interests.

There are also some "sidenote boxes" presenting example cases, exceptions to a previously presented rule, philosophical side trails, lists of additional readings or other comments too broad for footnotes (e.g. "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power")

The book is long, but still fairly brief considering its massive scope. Most individual chapters are short and to the point and include an "in short" summary for the impatient right after the title. A way to swallow the book in one sitting is to read only these summaries. You can also skip some of the quotes at the beginnings and ends of chapters if you feel there are too many.

The objective of the book is not to discuss any single matter exhaustively, but rather to put issues into *perspective*, *relate* them to each other and ask the *relevant questions*. This is why all the volumes are published as one book although there would be enough material for five separate books: because almost everything in an economic system affects almost everything! The economy is a *system*, and, as Russ Ackoff reminds us:

> "[i]f we have a system of improvement that is directed at improving the parts taken separately, you can be absolutely sure that the performance of the whole will not be improved."[83]

Taking the best parts (engine, transmission, wheels, body, etc.) from different cars and putting them together does not result in the best possible car. How parts *function together* is the most defining property of a system. Some seemingly well-intended components are simply not

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77 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
78 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".
79 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
80 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".
81 See: Graph 8.

82 See: "Sidenote Box 4211A: Silvio Gesell's Theory of 'Basic Interest' and 'Free-Money' – The Same in the 'Medium of Exchange' Frame".
83 5:27->, "If Russ Ackoff had given a TED Talk...", a presentations in 1994, viewed 16.10.2013, http://www.youtube.com/watch?v=OqEe-IG8aPPk

compatible and, put together, may behave in completely unintended ways.[84]

The book is structured like a standard business case. Volume 1 is an analysis of the situation, the "organization" and the "industry" – in this case the structures and mechanisms of a market economy – volume 2 is a comparison of strategic objectives (in this case, normative premises) and previous solution alternatives, volume 3 describes the major benefits and other effects of the suggested solution, volume 4 is a more detailed description of the solution and its implementation plan and volume 5 deals with practical problems and risks in getting the solution and the plan accepted by different stakeholders, with possible causes of concern, change resistance and other contingencies.

The book starts by presenting basic economic concepts, theories and phenomena questioning the necessity, purpose, and validity of each along the way (see: "1 A Brief Introduction to Economics"). This first volume serves as an introduction to economics and is hopefully understandable even to those new to the subject. An impatient reader, wanting to skip economic theory for now, might want to jump directly to "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and return to the underlying theory later according to cross-references or personal interest.

However, also a person with a background in economics is likely to find something new and interesting in volume 1. There persist especially noteworthy misconceptions regarding our current credit money system[85] with its "fractional reserve banking" (as it is misleadingly called[86]). We aim to clarify these, as well as sticky, outdated assumptions related to the mechanics of inflation.[87] Also the "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land" provides an important basis for the solutions and arguments presented in this book.

The second volume of the book – the "What" volume (see: "2 Comparing Objectives and Means – Different Economic Schools and The Root Bug Hypothesis") – first discusses some normative premises for an economy. Then it introduces different economic schools by briefly summarizing their main areas of concern, some solutions they suggest, issues they purposefully omit or downplay, their political or interest group orientations and some limiting or misleading assumptions they tend to make. Then it presents the basic logic of the Root Bug hypothesis and the questions it tackles.

The third volume of the book – the "Why" volume (see: "3 Why We Need to Fix the Root Bug") – entertains the idea of an economy, in which total demand does not significantly affect the correlation of earning opportunities with people's willingness to spend and invest and in which private monopolies are minimized – and shows how achieving such a situation would solve or allow solving our economic, social, and environmental challenges.

The fourth volume – the "How" volume (see: "4 How Could The Root Bug be Fixed"):

- presents a simple set of solutions for making sharing work profitable
- compares alternatives for facilitating negative real interest rates
- assesses some additional benefits of facilitating negative real interest rates and common objections to a higher target inflation rate
- lifts land value taxation back on the table with arguments from three centuries and
- presents some additional innovative taxation systems and incentives for an efficient public and private sector.

The fifth volume (see: "5 Why Not Before? And How Now?") explains why these solution options have not been suggested before, including some significant incentive traps in our existing institutions, which our romantic views of these institutions prevent us from seeing. It gives brief introductions to psycholinguistics and the emotivist view of morality, explaining how our outdated ethics and the misleading conceptual metaphors in our language also severely mislead us. It also suggests subjects for future research and ways in which the reader can further the discussion on the presented perspectives.

The book (especially the appendices[88]) includes a number of thought exercises that one is likely to find interesting and enlightening whether one is a natural rights libertarian[89]

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84 For example, the wage mechanism, which (like any price) is meant to balance supplied and demanded amounts in the labor market (see: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand"), is completely incompatible with predetermined quantities of education opportunities (see: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability"), and can result in a situation where rising wages in the sector actually *reduce* the supplied amount of labor, instead of increasing it (see: "3.2.2 Unfair Income Differences and Limits to Social Mobility" and "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'").

85 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

86 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

87 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

88 See: "6 Appendices".

89 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice" and "6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest".

believing in free private ownership of everything and anything, an anarchist communist[90] believing in the omnipotent power of love or a devoted anti-moneyist rooting for a new attempt at a centrally planned "resource-based economy"[91] ruled by computers. We hope to clarify the debate between these extreme views by finding some assumptions with which such systems might result in the desired outcomes. These discussions are also colored and supported with an integrated framework of "happiness"[92], another of empathy[93] and even an initial, hypothetical alternative to democracy for governing and developing our societal structures.[94]

This book is primarily *not* a work of economic *science*. It is a work of *economic engineering*.[95] The author does not attempt or claim to be a scientist conducting academic research, but an *economic entrepreneur* developing *solutions* for a better performing economic system. And similarly to how it would be constructive for physicists to listen to an electronics engineer or a quantum computing entrepreneur who points out that existing theories do not apply to or account for a new configuration he is developing (e.g. an electronic circuit or new kind of transistor), the combination of solutions presented in this book has the potential to *trigger* significant leaps in academic research as well.[96]

Although the claims are based on existing economic research and theories, many suggestions in the Root Bug perspective have not been studied or attempted in the form suggested, and hence, due to the complexity of the systems in which we live, their exact outcomes are impossible to predict. Thus, this book is first and foremost a cry for more research on the presented hypotheses[97] and perspectives, which have largely been overlooked in mainstream economic research as well as societal and political debate.

This research is direly needed to verify or falsify them and develop them further. The needed research funding would be fractions of a percent of the millions currently allocated to treating the different symptoms of this inefficiency referred to as the Root Bug – most notably all the effort put into finding ways to "create jobs"[98] and of keeping the economy growing and people spending more and more regardless of their actual preferences between leisure and additional goods and services.[99]

An economic scholar might find it disturbing that I do not always use the vocabulary of mainstream academic economics and that all models are not copied from official publications or textbooks. This is partly because the book also aims to explain economic concepts using mundane examples and vocabulary so that they are understandable to the general public. One objective is to build bridges both between different fields of science and between academia and non-academics. An additional reason for this is that seeing problems in a new way often requires a new language. It never fails to surprise how the grammar, vocabulary and frameworks we use limit and guide our thinking with their embedded assumptions and connotations.[100] The late economic theorist called Jesus of Nazareth put it as follows:

> "No one patches old clothes by sewing on a piece of new cloth. The new piece would shrink and tear a bigger hole. No one pours new wine into old wineskins. The wine would swell and burst the old skins. Then the wine would be lost, and the skins would be ruined. New wine must be put into new wineskins." (The Bible, Mark 2:21-22)

This lingual issue and how our sticky, outdated morality is deceiving us into self-destructive actions is discussed further in this book's sister "The Guilt Economy – Rage Against Our Medieval Money Morals", which combines e.g. ethics, sociology and psycholinguistics to tell an ironic and tragic story of how mankind is being destroyed by its good intentions – our very morality itself.

In this "pioneer edition" of the book, referencing (and copy editing) is also far from perfect. The full scope (though not depth) of this book would amount to dozens if not hundreds of PhD dissertations and therefore academic integrity has been sacrificed to bring these perspectives into broader consideration and under constructive criticism a few years faster. The increased attention and new participants in this quest for a fair, self-stabilizing, sustainable, innovative and growth-independent economic system will hopefully allow gathering a more solid and exhaustive base of literature for later versions of this book and to facilitate future research.

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90 See: "2.1.3 Anarchist Communism: 'Everyone According to His Ability, to Everyone According to His Needs'".
91 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".
92 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
93 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".
94 See: "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".
95 The distinction between economic science and economic engineering (as defined by e.g. Ben Bernanke) and how this innovating, private "entrepreneurial sector" is largely missing in the field of societal engineering – the absence of the "economic solutions industry" – is explained in section "5.2 Academic Economics Is Important – But It Is Not An Innovator".
96 See: "5.3.1 Suggested Subjects for Future Research".
97 See: "2.3.5 Structure of the Root Bug Hypothesis".
98 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
99 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility" and "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".
100 See: "5.1.1 Our Emotional Attachment to Words" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

Science, language and our other institutional constructs are in a constant, chaotic state of disruptive evolution and by the time we would have had this book perfectly referenced with currently available resources, many things would surely have changed – and we'd all very possibly be dead (as Keynes is often quoted to have said about "the long run"). This book and the solutions it discusses – like life or the world – are not "ready", as in final. And hopefully never will be. Although this book suggests some major "paradigm shifts", it believes in iterative development of ideas. As Karl Popper put it:

> "No book can ever be finished. While working on it we learn just enough to find it immature the moment we turn away from it." (Popper 1962, p. 5)

And this is what allows you to participate in writing it – and possibly the future history of mankind. You can contribute to the open source development of different versions of a root-debugged, sustainable economic system as well as share your criticism, reference hints and art work explaining the Root Bug in your own, personal "language" on the forums at www.rootbug.org. We can always do better.

In short, this book presents a new way of seeing the economic, environmental and social sustainability problems we are facing as well as a hypothesis of how they could be fixed – easily, quickly and feasibly.

Some like to distinguish between "fixing" and "solving" problems. While "fixing" the root of the problem is better than treating its symptoms, in some vocabularies, it is still not the same as "solving" the problem, eliminating it – but merely compensating for it.[101] This book is called "Fixing the Root Bug", as it identifies some fundamental flaws in both our current systems and completely "free" markets and suggests the simplest and most robust "fixes" to them that the author has found so far. With further development and new ideas, we might eventually get to "Solving the Root Bug" and its "subbugs"[102] for good!

The reader is advised to remain critical but open-minded, not taking anything for granted, but is also advised to avoid unnecessary cynical skepticism. Only by attempting to falsify hypotheses and theories can we progress in our understanding of the world and our ability to control phenomena – especially in understanding and controlling ourselves. We need to let go of the religious attitude[103] we have towards societal structures and consider them a field of innovation like any other. As Paul Romer puts it:

> "When we think about ideas in that way we usually think about technologies, but there's another class of ideas: the rules that govern how we interact with each other." ... "If we can keep innovating in our space of rules and particularly innovate in the sense of coming up with rules for changing rules, so we don't get stuck with bad rules, then we can keep moving progress forward and truly make the world a better place."[104]

The book attempts to build bridges and emphasizes the strife to understand instead of looking for scapegoats to blame.

An increased general understanding of different economic theories, perspectives and concepts is just one part. New theoretical interfaces need to be built between different – unfortunately protectionist – academic fields for cross-disciplinary utilization of research findings and more innovative research.[105] Beyond dismantling scientific segregation, we also need to try our best to understand the concerns of different interest groups and the versatility of human values and cultures.

Let's catch and tame the dragon before we continue running around trying to put out the fires.

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101 "Thinking things: Fixing problems, not solving them", Vanguard Consulting, viewed 12.11.2013, https://www.vanguard-method.com/content/2/thinking_things/#video, third video.

102 See: "2.3.5 Structure of the Root Bug Hypothesis".

103 See: "5.2.4 The Religious Nature of Economics and Politics" and "5.2.2 How Would You Roll out a New Operating System?".

104 17:20->, Romer, Paul, 2009, "Why the world needs charter cities", TED Talk, viewed 20.10.2013, http://www.ted.com/talks/paul_romer.html

105 See: "5.2.1 The Personal Nature and Incentive Traps of Academia".

1 A BRIEF INTRODUCTION TO ECONOMICS

"I don't care who writes a nation's laws, or crafts its treatises, if I can write its economics textbooks." – Paul Samuelson

"Microeconomics concerns things that economists are specifically wrong about, while macroeconomics concerns things economists are wrong about generally. Or to be more technical, microeconomics is about money you don't have, and macroeconomics is about money the government is out of."
– P.J. O'Rourke

"We spend billions of dollars trying to understand the origins of our universe, while we still don't understand the conditions for a stable society, a functioning economy or peace." – Dirk Helbing (Prof. ETH, 2009).

"[People/voters] do not grasp the 'invisible hand' of the market, with its ability to harmonize private greed and the public interest. I call this *anti-market bias*." – Bryan Caplan (2007, p. 1)

"The famous Austro-Hungarian doctor Ignaz Semmelweis had observed that more women died giving birth in hospitals than giving birth on the street. He called the establishment doctors a bunch of criminals – which they were: the doctors who kept killing patients could not accept his facts or act on them since he 'had no theory' for his observations." – Nassim Nicholas Taleb, Antifragile (2012, p. 111)

"That political economy, as at present taught, does not explain the persistence of poverty amid advancing wealth in a manner which accords with the deep-seated perceptions of men; that the unquestionable truths which it does teach are unrelated and disjointed; that it has failed to make the progress in popular thought that truth, even when unpleasant, must make; that, on the contrary, after a century of cultivation, during which it has engrossed the attention of some of the most subtle and most powerful intellects, it should be spurned by the statesman, scouted by the masses, and relegated in the opinion of many educated and thinking men to the rank of a pseudo-science in which nothing is fixed or can be fixed – must, it seems to me, be due not to any inability of the science when properly pursued, but to some false step in its premises, or overlooked factor in its estimates. And as such mistakes are generally concealed by the respect paid to authority, I propose in this inquiry to take nothing for granted, but to bring even accepted theories to the test of first principles, and should they not stand the test, freshly to interrogate facts in the endeavor to discover their law." – Henry George, Progress and Poverty (1912, p. 21)

1.1 VALUE, PRODUCTION AND MARKETS

1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress

In short:

- *The prosperity and progress of mankind is largely due to our ability to cooperate and specialize as well as store and pass information – including technologies – on to others.*
- *However, excessive specialization into yet narrower ranges of tasks can make people's lives less interesting, reduce innovative capacity and make an economy less robust to various kinds of shocks – thereby reducing long run efficiency.*

> "[E]ach of us, as individuals, is limited, like a neuron. Neurons are not very smart on their own. They do one thing and they do it well." … "So we need each other to think – we need each other to challenge our reasoning. This is one of the reasons why we need diversity – particularly ideological diversity, intellectual diversity. We don't have that anymore." – Jonathan Haidt[107]

> "We owe it to the division of labour that we produce more than we consume. Liberated thus from the compulsion of immediate needs, we can devote time, provisions and work to the perfection and multiplication of our means of production. Without the division of labour we could never have accumulated our present wealth of means of production, and without these means of production our labour could not have attained the hundredth part of its present fertility." – Silvio Gesell, The Natural Economic Order (1916, Part 3, Ch. 2)

> "Technology is a gift of God. After the gift of life it is perhaps the greatest of God's gifts. It is the mother of civilization, of arts and of sciences." – Freeman Dyson

The prosperity and progress of mankind is largely d to our ability to cooperate and specialize. When e person can learn to do a set of tasks very efficiently a then cooperate with others specializing in differe tasks, we can achieve much higher productivity – m valuable outputs with less work and resources – than could by each of us trying to learn to do everything. working together we can build far more complex to and structures than anyone could alone. Someone else c then specialize in mastering the use and application these tools to new solutions.

Additionally, our ability to pass knowledge on to othe by teaching and by storing information in various mec (writing, design drawings, recorded audio, video et allows each craft and technology to evolve beyond mere the lifetime of a single human being.

In 1958, Leonard Read wrote his classic essay "I, pen My Family Tree" (Read 2011) of how it would be an alm impossible task for a single human being to develop the skills required for the production of a simple penc This same case example has been retold many times, mo recently e.g. by Matt Ridley in his TED Talk "When ide have sex".[108] (It was also one of the favorites of Milto Friedman[109] [110] to demonstrate the "magical" effects the price mechanism, which we'll return to in "1.1

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107 35:20->, Haidt, Jonathan, "The Rationalist Delusion in Moral Psychology", lecture, viewed 20.2.2014, http://www.youtube.com/watch?v=kI1wQswRVaU

108 Ridley, Matt, 2010, "When Ideas Have Sex", TED Talk, viewed 12.12.2012, http://www.ted.com/talks/matt_ridley_when_ideas_have_sex.html

109 Friedman, Milton, "Lesson of the pencil", television lecture, viewed 25.1.2014, http://www.youtube.com/watch?v=4ERbC7JyCfU

110 "I know of no other piece of literature [than 'I, pencil'] that so succinctly, persuasively, and effectively illustrates the meaning of both Adam Smith's invisible hand – the possibility of cooperation without coercion – and Friedrich Hayek's emphasis on the importance of dispersed knowledge and the role of the price system in communicating information that 'will make the individuals do the desirable things without anyone having to tell them what to do.'" – Milton Friedman in his Introduction to Liberty Fund's 2011 realease of "I, pencil" (Read 2011, p. 5)

The 'Market Forces' – How Prices Balance Supply and Demand".)

Also Adam Smith's famous work "An Inquiry into the Nature and Causes of the Wealth of Nations" (often referred to simply as "Wealth of Nations") starts with an explanation of how this "division of labor" had already in the 18th century increased productivity by multiples of thousands using the even simpler case of making pins:

> "The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of the division of labour." ...
>
> "To take an example ... the trade of a pin-maker; a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty." ...
>
> "Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day..." (Smith 1776, p. 10-11)

However, it is important to note that further specialization – a yet stricter division of labor – does not always increase productivity nor does it make sense as an objective in itself. A broader range of skills and more variance in tasks can make a person more creative and motivated and hence more productive in the long run.

In addition to this kind of "direct" increases in productivity to the company or society, people also value variance to some extent. Excessive "Taylorism" – dividing production processes into simplified, repetitive tasks that even low-skilled workers can easily learn (Taylor 1914) – might minimize the amount of work needed but make the work more tedious and unrewarding in the long run, decreasing its "value productivity" for the employee[111], which under fair competition might increase demanded wages[112] and, through lower motivation, also reduce the direct "end productivity" of the work.[113] Adam Smith agrees about these dangers and costs of an excessive division of labor:

> "In the progress of the division of labour, the employment of the far greater part of those who live by labour, that is, the great body of the people, comes to be confined to a few very simple operations, frequently to one or two." ... "The man whose whole life is spent in performing a few simple operations, of which the effects, too, are perhaps always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention, in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become." (Smith 1776, p. 637)

Also, in a turbulent world of constant technological evolution and changing preferences, it is essential for the system's robustness (or even antifragility[114]) to shocks and for long-term productivity development that individuals maintain the ability to learn new skills and adapt to new roles and situations.[115] Excessive dedication to one discipline or technology poses a risk to such adaptability. As with the production processes of individual companies,[116] (ReVelle 2004, p. 5-6) making the economy too "lean" (focusing only on eliminating waste) might decrease its "agility" (adaptability to unexpected changes). This also applies to the international division of labor.[117] Smith saw this problem even in his less globalized and internetless world:

> "The uniformity of his stationary life naturally corrupts the courage of his mind... It corrupts even the activity of his body, and renders him incapable of exerting his strength with vigour and perseverance in any other employment than that to which he has been bred. His dexterity at his own particular trade seems, in this manner, to be acquired at the expense of his intellectual, social, and martial virtues. But in every improved and civilized society, this is the state into which the labouring poor, that is, the great body of the people, must necessarily fall, unless government takes some pains to prevent it." (Smith 1776, p. 637-638)

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111 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

112 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

113 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

114 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

115 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "Sidenote Box 414B: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent".

116 "Agile Enterprise Versus Lean Enterprise Tutorial", ASQ.org. http://asq.org/learn-about-quality/lean/overview/agile-vs-lean-tutorial.html

117 See: "Sidenote Box 331A: Do Developing Countries Need Protectionist Measures to Get out of Poverty?".

This point is often used (by e.g. Noam Chomsky[118]) to argue for very broad state intervention in labor markets and by trade union movements to justify their own power and even to oppose labor productivity-enhancing improvements[119] - in the fashion of the (in) famous Luddites: textile artisan activists who opposed the introduction of power looms and other labor-saving machines in the early 19th century.[120]

This book suggests that the "pains" required from the government are much smaller than one might expect. An "excessive" division of labor leading to e.g. mind-numbing, uninspiring tasks can be prevented by ensuring that workers always have options:[121] If there is always competition over employees, it becomes profitable for companies to make work inspiring and motivating, as this requires them to pay less to attract employees. There would not only be a tendency to maximize the value of the products or services produced per hour of labor, but also to improve the enjoyability and motivating nature of the work.[122] Ensuring people have options additionally requires guaranteeing the availability of education opportunities,[123] which is one of the measures also Smith suggested.[124]

Similarly, the fears of permanent unemployment due to increases in labor productivity would be unnecessary without the labor market imperfection that makes reduced aggregate demand result in an increasing mismatch in the supply and demand of labor on the individual level.[125] If sharing work were always profitable for employers, there would be no need to limit increases in labor productivity - or to create work in any other way just to avoid unemployment.[126]

"Innovation – the heart of the knowledge economy – is fundamentally social." – Malcolm Gladwell

"The boundless variety of human nature – the wide range of differences in individual capacities and potentialities – is one of the most distinctive facts about the human species." ... "As a statement of fact, it just is not true that 'all men are born equal.'" – Friedrich A. Hayek, The Constitution of Liberty (1960)

118 "Noam Chomsky on Economics and Classical Liberalism", Parecon Finland, cited 12.10.2014, https://www.youtube.com/watch?v=cmjfg-fU-I1M

119 See: "3.2.3 Unionization and Strikes", "2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'" and "3.1.7 Incentive Trap for Grassroots-Level Innovation".

120 "Luddite", definition, Merriam-Webster dictionary, cited 25.2.2014, http://www.merriam-webster.com/dictionary/luddite

121 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility" and "3.3.4 Slave-Rate Wages, Inhumane Working Conditions and Child Labor".

122 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

123 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

124 "The expense of the institutions for education and religious instruction, is likewise, no doubt, beneficial to the whole society, and may, therefore, without injustice, be defrayed by the general contribution of the whole society." (Smith 1776, p. 667)

125 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest" and "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

126 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources

In short:

- ***Cooperation requires trust – some kind of ability to predict others' behavior. Trust can be enforced implicitly through empathic relationships, moral rules of thumb or more explicitly through rules, contracts and threats of punishment for breaches.***
- ***Credit (promises of returning favors) and ownership (rights regarding objects) are types of explicit contracts that facilitate trust and cooperation beyond the closest empathic ties and can be considered to form the basis of a market economy.***

"Social institutions are the laws, informal rules, and conventions that give durable structure to social interactions within a population. Such institutions are typically not designed consciously, are heritable at the population level, are frequently but not always group beneficial, and are often symbolically marked." ... "The evolution of institutions is partly driven by both the deliberate and intuitive decisions of individuals and collectivities." – Robert Boyd & Peter J. Richerson, Gene-Culture Coevolution and the Evolution of Social Institutions (2008, p. 305)

"The reason we can be so well off, even though there are so many people on Earth, is the power of ideas."... "When we think about ideas in that way we usually think about technologies, but there's another class of ideas: the rules that govern how we interact with each other." ... "If we can keep innovating in our space of rules and particularly innovate in the sense of coming up with rules for changing rules, so we don't get stuck with bad rules, then we can keep moving progress forward and truly make the world a better place" – Paul Romer[127]

"To start, we need to talk briefly about what it is economic theorists do. Essentially, they make models, which are mathematical tools that are supposed to describe how the economy functions. The problem is that economists haven't really built a model of the whole economy that works." – Noah Smith[128]

As explained in the previous chapter, cooperation significantly increases the society's productive potential. The next question is how that cooperation is coordinated and how the decisions over which things to produce and how to produce them are made. Some sociologists – most notably Karl Marx – have seen the "mode of production" as the fundamental guiding force behind how societies are shaped and formed.[129]

In any case, one fundamental factor facilitating cooperation of humans – individual agents with no "direct" means of transferring ideas between one another or controlling one another – is *trust*: For planned and purposeful cooperation to be possible and effective, we need to be able to *predict* at least partly how others will behave. This trust can be a result of mutually empathic relationships that we've established, which create implicit contracts, such as reciprocity: expecting fair exchange or simply that others will care for our needs as well without "keeping score".

Such empathic incentives can be accompanied by social pressure with implicit threats of exclusion from the society or some other form of punishment. This makes playing the

127 17:20->, Romer, Paul, 2009, "Why the world needs charter cities", TED Talk, viewed 20.10.2013, http://www.ted.com/talks/paul_romer.html

128 Smith, Noah, "Should We Trust Economists?" The Atlantic, 4th Jun 2013, cited 19.6.2013, http://www.theatlantic.com/business/archive/2013/06/should-we-trust-economists/276497/

129 This downplays the fact that – from an "objective perspective" (if one can be imagined) – the main "product" of much of human activity is the fortification of the structures and relations themselves. Some of such societal structures – institutions – have mostly detached themselves from any direct productive function. As cliché examples, this can be seen in cultural rites and rituals. From a subjective perspective (the perspective of an individual human being), we can see that we have social values: Other people and relationships have value to us in themselves exceeding their value as a *means* to other functional ends (see: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness"). Therefore, not only does the "mode of production" – technologies and economic systems – shape the structure of society, but societal structures and institutions also strongly affect the paths of development that technologies and organizational forms take. For more on self-sustaining institutions, see: "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution" and "5.1.4 Institutional Interests – Rogue Agents without a Principal.

"cooperating game" more viable even when the "empathy factor" between two individuals turns negative due to e.g. jealousy, grudge or some other form of malice.[130]

When empathic relations and loyalty are weaker – especially when cooperating communities become large – trust can be increased by making expectations and threats more explicit in the form of publicly stated sets of rules. These rules can be contracts that automatically bind all members of a society or they can be structures that ensure that specific contracts between consenting parties are followed. Legislation is a more sophisticated form of such rules passed by e.g. a state.

The society can set explicit punishments for breaches of rules – "crimes" in the case of law – in order to further decrease the temptation and hence the likelihood of such breaches. Our morality – a sense of "right" and "wrong", feelings regarding actions that we expect others should feel too – is another factor enforcing rules, making us also control our own actions and censor our urges in advance. As many people have a strong need to protect their personal integrity and avoid guilt, moral incentives can be much stronger than a fear of punishment. This book's sister book, The Guilt Economy is dedicated to the sticky and sometimes counterproductive nature of human morality.

One classic definition of an "economy" is "the allocation of scarce resources toward alternative desirable ends". In human societies, "economic systems" are often specified to mean "systems where goods and services are produced and distributed" using available resources or "factors of production"[131] and then consumed, i.e. used for some desirable end by participants. But *economics* – the discipline studying economies – is also seen as a study of *collective* human behavior, to which the previous definitions of "an economy" make little reference. In his "An Essay on the Nature and Significance of Economic Science", Lionel Robbins integrates the aspects by proposing to define economics as:

> "the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." (Robbins 1945, p. 16)

Can we have an economic system of one person? Yes – many economic concepts and calculations are very relevant without any interaction with other people, such as when Robinson Crusoe[132] decides how many of his seeds to eat and how many to sow for an expectation of future crops, or how to diversify the risks of his "agricultural ventures" by e.g. sowing in different places and different kinds of soil. Crusoe's behavior – even before his cooperation with Friday – can be analyzed "as a relationship between ends and scarce means." But of course Crusoe alone does not form a society.

In terms of studying economies, the Henry George Institute likes to make a distinction between "economics" and "political economy", as follows:

"Most standard textbooks today define 'Economics' as 'The science of how people make choices for the allocation of scarce resources to satisfy their unlimited desires.' That is a statement of the basic dilemma called 'the problem of scarcity.' The classical political economists recognized the problem of scarcity, but they were preoccupied with the economic life of the entire community – with the 'wealth of nations.' They sought to identify the principles that underlie the production and distribution of wealth. As it is most often taught today, economics pays little attention to the distribution of wealth. Why the change? That is a question we will ponder as we go through this course. Because wealth distribution is a central concern for us, we will continue to call our study Political Economy – which we define as:

> *The science which deals with the natural laws governing the production and distribution of valuable goods and services."* (*italics* in original)[133]

One way of seeing "the desirability of ends", is that goods and services produce *value* for consumers who *appreciate* them. With this definition, the measure of efficiency or "goodness" of an economic system (i.e. how "economic" it is) could be how much *added value* it manages to produce for its participants with the available resources. However, the claim that an economic system *should* aim to produce (some kind of) maximal "value" for its participants is already a normative statement, with which many (including natural rights libertarians) are likely to strongly disagree. Also, the whole concept of "value" and what it is – and especially its measurability and the possibility of making interpersonal value comparisons –

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130 For more detail on this model of empathy, see: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

131 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

132 The story (based on Daniel Defoe's novel from 1719) of the castaway Crusoe on an uninhabited island is quite a popular fictive case example in economic speculation (e.g Rothbard 1998, Ch. 10; Gesell 1916, Part 5, Ch. 1; Keynes 1936, p. 21).
"Since Robinson Crusoe's experiences are a favourite theme with political economists, let us take a look at him on his island." (Marx 1887, p. 49)
"One of the most commonly derided constructions of classical economic theory is 'Crusoe Economics,' the analysis of an isolated man face-to-face with nature. And yet, this seemingly 'unrealistic' model, as I have tried to demonstrate elsewhere, has highly important and even indispensable uses." (Rothbard 1998, Ch. 6, p. 29)

133 "'Economics' and "Political Economy", Henry George Institute, cited 18.6.2013, http://www.henrygeorge.org/def2.htm

is a frequent subject of dispute.[134] We should note that *if* we dismiss any objective of value maximization, it is hard to find a way to compare the "efficiency" of economic systems absolutely.[135]

Alternatively or in addition to value generation, some suggest that an economic system should be "just" or "fair", but there is also a lot of variance in how "justice" is defined.[136] Similarly, "equality" and "freedom" are words with endless amounts of meanings that are used to justify certain kinds of economic systems and societal structures. Some insist that there are certain "natural rights" or ways in which societies and economies should naturally be organized, regardless of the outcome.[137] These different normative principles for an economy are discussed in section "2.1 Normative Principles – What Do We Want from an Economic System?". The pursuit of almost all of these normative maxims – despite being very different and even conflicting – require some kind of trust between people to be built and maintained.

Regardless of what we take as normative maxims for an economic system, what fundamentally defines it are its structures, including the rules (that apply to everyone non-voluntarily) and the types of contracts that can be made (voluntarily) – and how these are enforced. The economic system could essentially be seen as a big game, the course of which is determined by its rules, contracts, incentives and other game mechanics.[138]

Of course, the traits and personal characteristics of the people participating in the system (game) and other cultural aspects in their interaction are just as important in terms of the "outcome" and functioning of an economy – how the game will play out – if not more so. It is an important consideration that the same rules or incentives might have completely different impacts in different cultures and with different groups of people.[139] But people themselves are harder to change, and cultural tendencies and traits are very sticky – especially human morality. Rules and incentives can be changed more easily.[140]

A *market economy* is an economy that "operates by voluntary exchange in a free market and is not planned or controlled by a central authority".[141] The individual transactions (exchange events) between people and institutional entities form "markets" (the cotton market, the wheat market, different labor markets, financial markets etc.). People's preferences and capabilities and the resulting choices they make form *the market forces*: supply and demand.[142] *Prices* of goods, services and other resources ("ends" and "means") – i.e. the rates at which they are exchanged for each other – are the fundamental "forces" controlling the allocation of resources, including investment[143], production and distribution.

In its broadest sense, a "market economy" is any system where the outcomes are determined *emergently* by the choices of individuals without central coordination. We could e.g. talk about the "relationship market" between people. And we could consider the formation of relationships to be a kind of "transaction" or "exchange process", even though (at least in the Western world) this market does not usually involve a price mechanism similar to that in a market economy for exchanging goods and services. In some cultures, families practically trade their sons and daughters in marriages and the exchange can include other goods as well (e.g. a dowry).

Most market economies for directing the production and distribution of goods, services and other resources are built around two basic types of contracts ("social relations" as e.g. Marxists would like to call them) that serve to enforce trust – make others' actions more predictable – and hence facilitate cooperation. These are:

- *rights* regarding the use and control of assets, which together form the concept of *ownership* or *property*,[144] and
- the *promises* of future payments – transfers of something valuable (including the kinds of rights meant above) – called *credit*, derived from Latin, "credo" meaning "faith" or "trust."[145]

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134 More on the nature of value and issues with it in: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", "2.1.6 Conclusions – How about a Game Design Approach?", "6.4 Appendix 4: Happiness Is Appreciating – A Framework of Happiness", "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive" and "6.1.2 Appendix 1.2: Different Types of Value Products Provide".

135 Other systems than human societies could also be seen as "economic systems" in the sense of "allocating scarce resources". For example ecosystems can be thought to direct energy to different life forms. See: "Sidenote Box 113A: Objective Value Theories and Morality".

136 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance".

137 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

138 See: "2.1.6 Conclusions – How about a Game Design Approach?".

139 It is e.g. important to note how a market of competing organizational forms (which are meant to go bankrupt; see: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'" and footnote 419) might have problematic consequences in a highly collectivist culture, (Hofstede 1984) where people become strongly attached to the organizations they belong to and work for. Also interest rates might have very different effects on people's tendencies to save depending on the prevalent economic ethics, including work ethics (see: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply", "4.1.6.2 Making Sharing Work Socially Acceptable" and "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them").

140 Although, in practice, this too has its challenges, see: "6.3.2 Appendix 3.2: The Challenges with Democracy".

141 "Market economy", definition, The Free Dictionary, cited 16.10.2013, http://www.thefreedictionary.com/market+economy

142 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

143 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

144 See: "1.1.7 Ownership as a Bundle of Rights".

145 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flex-

Obedience to these kinds of contracts are also deeply entrenched into our morality, in rules of thumb like "do not steal" and the strong negative emotional association we have with remaining indebted to others for a long time.

As an analogy for the more computer savvy: In "hacking" an economic system, fine-tuning monetary and fiscal policies[146] is like modifying a Java program using a pre-existing API (Application Programming Interface) and library of entities. Redefining property rights and credit relations and rethinking how they should be enforced would be comparable to coding a new backend system with C or building a whole new communication protocol.

"This is a fundamental principle: There cannot be community, there cannot be corporation and, therefore, there cannot be *commerce* ... without trust." – Alan Watts[147]

"Even what a person has produced by his individual toil, unaided by any one, he cannot keep, unless by the permission of society. Not only can society take it from him, but individuals could and would take it from him, if society only remained passive; if it did not either interfere en masse, or employ and pay people for the purpose of preventing him from being disturbed in the possession. The distribution of wealth, therefore, depends on the laws and customs of society." ... "Human beings can control their own acts, but not the consequences of their acts either to themselves or to others. Society can subject the distribution of wealth to whatever rules it thinks best: but what practical results will flow from the operation of those rules, must be discovered, like any other physical or mental truths, by observation and reasoning." – John Stuart Mill, Principles of Political Economy (1848, Book 2, Ch. 2, Sec. 1)

ibility".

146 See: "2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder" and "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

147 17:27->, Watts, Alan, "Business", lecture, listened 1.9.2014, https://www.youtube.com/watch?v=Jw3a6Tn7T20

1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion

In short:

- *Value is either a subjective human experience or attitude that cannot be quantified by any absolute means, or an abstract representation of the choices people tend to make. In either case, market prices are not full or universal measures of the value of anything.*
- *People like to see themselves as agents acting rationally towards certain, clearly prioritized ends. Research in marketing, behavioral economics and psychology suggests that, in reality, we are much more controlled by habits and emotional conditioning. We are just masters at justifying our decisions and actions "rationally" – i.e. rationalizing.*
- *A human life can be seen as a constant process of self-deception. Irrational optimism, rejecting contradictory evidence, overconfidence in one's abilities, escalating commitment and forgetting painful events etc. are natural coping mechanisms and even prerequisites for productive action. A lack of self-deception is often a symptom of severe depression.*

"To know what you prefer instead of humbly saying Amen to what the world tells you you ought to prefer, is to have kept your soul alive." – Robert Louis Stevenson, An Inland Voyage

"In spite of numberless efforts, the theory of value was and is one of the darkest, most confused and controversial parts of our science." – Eugen von Böhm-Bawerk (Gesell 1916, Part 3, Ch. 3)

"The word value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called 'value in use'; the other, 'value in exchange.' The things which have the greatest value in use have frequently little or no value in exchange; on the contrary, those which have the greatest value in exchange have frequently little or no value in use." – Adam Smith, Wealth of Nations, Book 1, Chapter 4.

"So convenient a thing it is to be a reasonable creature, since it enables one to find or make a reason for everything one has a mind to do." – Benjamin Franklin

"In everything one thing is impossible: rationality." – Friedrich Nietzsche

"The entire heritage of thinking, grounded in the sentence 'An agent does not move except out of intention for an end,' is where the most pervasive human error lies, compounded by two or more centuries of the illusion of unconditional scientific understanding. This error is also the most fragilizing one." – Nassim Nicholas Taleb, Antifragile (2012, p. 170)

We cannot fully understand concepts like *"productivity"* or *"efficiency"* (and their limits) without defining the concept of *"value"*. Previously, we suggested that some might set as the ultimate objective or purpose of a human economic system to produce *value* for the participants.[148] Another objective often set is "human well-being" or "happiness", but it would be very rash to equate these directly with "value".[149]

In subjective theories of value, value is purely the personal experience of an individual.

> "A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable, which influences the selection from available modes, means, and ends of action." (Kluckhohn 1951, p. 395)
>
> "According to the literature, values are (a) concepts or beliefs, (b) about desirable end states or behaviors, (c) that transcend specific situations, (d) guide selection or evaluation of behavior and events, and (e) are ordered by relative importance." (Schwartz & Bilsky, 1987, p. 551)

Until the "ordinalist revolution", many economists presumed that people's *utility functions* – mathematical representations of how much value goods and services provide for people – were fairly similar and could be quantified and compared to each other directly.[150] (Hovenkamp 2009)[151] Such an absolute measure of utility (perceived value in use) is called *"cardinal value"*. *"Ordinal value"* is the value of a good to an agent compared to the value of other goods.

Irving Fisher's Theory of Interest, which significantly influenced neoclassical economics refers to subjectively experienced value from external stimuli as "subjective income" or "enjoyment income":

> "For each individual only those events which come within the purview of his experience are of direct concern. It is these events – the psychic experiences of the individual mind – which constitute ultimate income for that individual. The outside events have significance for that individual only in so far as they are the means to these inner events of the mind. The human nervous system is, like a radio, a great receiving instrument. Our brains serve to transform into the stream of our psychic life those outside events, which happen to us and stimulate our nervous system." ...
>
> Enjoyment income is a psychological entity and cannot be measured directly. We can approximate it

148 For other possible normative premises for an economic system, see: "2.1 Normative Principles – What Do We Want from an Economic System?".

149 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness" and "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

150 The possibility of interpersonal comparison of utilities was, of course famously challenged by Lionel Robbins (1938) and others in the high days of simple positivist criticism of utilitarian welfare economics." ... "However, if we see utility only as a numerical representation of each person's choice behavior, there is, then, no basis here for interpersonal comparisons of utility since each person's choice behavior is a distinct and separate entity." (Sen 1997, p. 391)

151 "The ordinalist revolution adopted the view that interpersonal utility comparisons were empirically impossible and thus unscientific. It was a reaction to the wealth redistribution ideas explicit in the writings of the Cambridge neoclassicists, which included Marshall, Pigou, and Joan Robinson. Like all the early British marginalists, Pigou believed that human beings had utility functions that were more or less similar to one another and could thus be quantified and compared. This in turn led to the view that social value could be increased by transferring wealth from the rich, for whom the marginal value of a unit of money was presumably small, to the poor for whom it was regarded as much higher. By the 1940s, this idea was completely rejected by neoclassicist economists looking for a more positivist methodology and convinced that one could not make empirical interpersonal utility comparisons." (Hovenkamp 2009, p. 635)

> indirectly, however, by going one step back of it to what is called real income. Real wages, and indeed real income in general, consist of those final physical events in the *outer* world which give us our *inner* enjoyments. This real income includes the shelter of a house, the music of a victrola or radio, the use of clothes, the eating of food, the reading of the newspaper and all those other innumerable events by which we make the world about us contribute to our enjoyments." (Fisher 1930, p. 11-12)

Although Fisher says that value cannot be measured directly, he developed a model for measuring it by comparing it to the marginal value of other things for the same person. To Ludwig von Mises, however, representing the Austrian school of economics, "value is always the result of a process of valuation" (Mises 1912, p. 45) and "[s]ubjective use-value is not susceptible of any kind of measurement." (Mises 1912, p. 42).

Although von Mises's arguments against Fisher's mathematical approach partly serve to show that von Mises does not quite understand the mathematical concepts of limits and derivatives,[152] his criticism contains a profound wisdom. Fisher assumes that marginal utility is a continuous function. Rather, von Mises insists that the valuation process only places certain alternatives that are under consideration in an order of preference. Also some neoclassical economists have questioned this idea of "diminishing marginal rate of substitution" and for example Paul Samuelson introduced the *revealed preference theory*, which attempts to rather determine utility functions according to consumer choices.

However, we could take this idea even further and suggest that a clear preference order cannot be established either. When confronted with different decision-making situations, the setting and available options might make us emphasize different, incommensurable criteria. And we might not even *want to* give them a common point of reference to make comparisons possible. We cannot reduce these criteria into commensurable *"utils"* – a unit of perceived value suggested by Fisher – because they are not part of the same "Game".[153] If you were playing monopoly and chess simultaneously, it wouldn't be an easy choice to say how much Monopoly money you'd be ready to pay for an additional chess knight. You probably wouldn't even want to be given that choice, as it might force you to neglect the other game at the expense of the other and kill your motivation in putting your best into one of them. Of course, if both matches were "subgames" in a larger game – if you were e.g. playing both for points in a bigger tournament or for stakes of real world cash – calculating which game is worth prioritizing over the other might become a motivating decision to make.

When faced with a choice affecting a number of different "Games", you might make the choice that is e.g. easiest for you to *justify* to yourself within any one of the Games. Therefore, a situation in real life might arise, where you'd choose B over A, C over B but A over C – a "rock-paper-scissors dilemma", or "intransitivity" in mathematical terms. In different cases, different Games might provide the clearest decision criteria. For example, one might otherwise prefer C over A, except that A involves a duty towards a social group one belongs to and the reputational cost of skipping A is higher than the benefit of C. B might include a socially acceptable excuse to neglect A although on the whole it is not as preferable as C. Therefore, if presented with options A and B, one chooses B although one would not trade A for C or C for B. Von Mises thinks these kinds of situations must mean that one's preferences have changed between making the choices and that different choices could never occur simultaneously. (Mises 1963, p. 103)

The idea of people playing many "separate games" is linked to the idea of "mental accounting" in behavioral economics: that people categorize their incomes and expenditures into classes, which have their own cognitive "budgets" and different value functions, and that changes in incomes or expenses affect much more strongly other decision in the same category than decisions in other categories. (Thaler 1985; Thaler 1999; Shefrin & Thaler 2004)

Such models of human decision making poke holes in the infallibility of "praxeology" – supported by many Austrian economists – "the study of those aspects of human action that can be grasped *a priori*..."[154]. The starting point of praxeology is that people *act purposefully* and consciously towards certain *goals*. However, an alternative explanation of human action could be that people act in ways and make choices that they find easiest for themselves to *justify* – with little regard to actual or possible outcomes. The driving force might not be so much the desirability of a specific outcome, but e.g. the fear of regret – the feeling of having made a mistake or a "bad choice".

Von Mises deduces from the action axiom that man will act to remove the most pressing source of dissatisfaction first and then move to the next most pressing source of

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152 "But even if the applicability of the conception of infinitesimal quantities were granted, the argument would still be invalid, for it is obviously impossible to find the proportion between two finite marginal utilities by equating them with two infinitesimal marginal utilities." (Mises 1912, p. 44)

153 For the definition of the concept of "Games" (with a capital "G) in this book, see: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

154 "What the hell is praxeology?" Praxeology.com, cited 22.2.2013, http://www.praxeology.net/praxeo.htm

dissatisfaction or "uneasiness"[155]. Counterexamples to this conclusion are quite easy to come up with through both introspection and objective empirical research. In reality, one might instead try to avoid addressing the biggest cause of grief and focus on a Game that is more motivating – such as one where one can expect a clearer sense of progress. The common tendency to clean one's apartment or do other things to avoid studying for an upcoming exam is one example of such *procrastination*. Neil Strauss, when discussing time management with Tim Ferriss, puts this quite aptly:

> "So the bigger problem is not other people interrupting, it's you – you are the enemy you're fighting. It's because, as soon as something gets challenging, the first thing you wanna do is go do something else … find something else to do that's not as important"[156]

The *a priori* "truths" that praxeology arrives at are hence mostly assumptions embedded in concepts or included in their definitions – like "action" and "acting". As Murray N. Rothbard puts it:

> "Praxeology rests on the fundamental axiom that individual human beings act, that is, on the primordial fact that individuals engage in conscious actions toward chosen goals. This concept of action contrasts to purely reflexive, or knee-jerk, behavior, which is not directed toward goals." (Rothbard 1997, p. 58)

Or in von Mises's words:

> "Human action is purposeful behavior. Or we may say: Action is will put into operation and transformed into an agency, is aiming at ends and goals, is the ego's meaningful response to stimuli and to the conditions of its environment, is a person's conscious adjustment to the state of the universe that determines his life." (Mises 1963, p. 11)
>
> "But to make a man act, uneasiness and the image of a more satisfactory state alone are not sufficient. A third condition is required: the expectation that purposeful behavior has the power to remove or at least to alleviate the felt uneasiness. In the absence of this condition no action is feasible." (Mises 1963, p. 14)

Praxeology's *"homo agens"* (Mises 1963, p. 14), "acting man" perception of humans dismisses the assumptions of rationality and perfect knowledge – for which the "homo economicus" view of neoclassical economic models is criticized – but still assumes that people always act *purposefully* and *consciously* towards certain goals. Both models practically assume that people act *consequentialistically* – that they make their decisions and act based on the (expected) outcomes. This sidesteps the possibility that a person could also act according to certain rules or by trying to avoid negative associations with oneself. This is peculiar, as e.g. Hans-Herman Hoppe rejects consequentialist *ethics* as irrational, specifically on praxeological grounds, (Hoppe 1993, p. 344)[157] favoring *deontological ethics* (self-ownership and natural rights[158]), which judges actions themselves as right or wrong – regardless of their outcome.

A third branch of *normative ethics* is *virtue* ethics, where the traits and characteristics of individuals are the object of judgment. If people judge each other by standards other than just the outcomes of their actions, why shouldn't other factors also affect how people choose to behave themselves?[159]

And economics is not the only field ridden with this assumption that "'An agent does not move except out of intention for an end,' *agen autem non movet nisi ex intentione finis*". (Taleb 2012, p. 169) This line of thinking is prevalent in most of Western philosophy. Nassim Nicholas Taleb refers to "the illusion that you know exactly where you are going, and that you knew exactly where you were going in the past, and that others have succeeded by knowing where they were going" as the "teleological fallacy." (Taleb 2012, p. 170)

Deviations in human behavior from that of an outcome-optimizing, "rational" agent are usually treated in economics as perception or judgment *biases*. Herbert A. Simon's (1956) concepts of "bounded rationality" and "satisficing" are good examples of this.[160] Although Simon points out that, due to limited information and the costs of acquiring it, people lack the cognitive capacity to *optimize*, the assumption is still that people make decisions based on *expected outcomes* – just with limited information and

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155 "Acting man values things as means for the removal of his uneasiness." "…man arranges all things in *one* scale and sees in them only their relevance for an increase in his own satisfaction." … "For acting man there exists primarily nothing but various degrees of relevance and urgency with regard to his own well-being." (Mises 1963, p. 119)

156 30:54->, "The Tim Ferriss Podcast, Ep 15: Neil Strauss, Author of The Game", Tim Ferriss Podcast, listened 5.7.2014, http://fourhourworkweek.com/2014/06/24/neil-strauss/

157 "More specifically, as regards the consequentialist aspect of libertarianism, the proof shows its praxeological impossibility: the assignment of rights of exclusive control cannot be dependent on certain outcomes. One could never act and propose anything unless private property rights exited prior to a later outcome. A consequentialist ethic is a praxeological absurdity." (Hoppe 1993, p. 344)

158 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

159 Different branches of normative ethics are discussed in more detail in this book's sister, the Guilt Economy and touched upon in "Sidenote Box 113A: Objective Value Theories and Morality" and "2.1 Normative Principles – What Do We Want from an Economic System?".

160 "Evidently, organisms adapt well enough to 'satisfice'; they do not, in general, 'optimize'." (Simon 1956, p. 129)

affected by the costs of acquiring and handling more information for making more detailed and reliable estimates of outcomes. Another example is how Adam Smith considered some people's exuberant tendency to take risks to be a result of overestimating potential benefits and underestimating potential costs[161] (Smith 1776, p. 93) – instead of the result of for example attributing positive value to risk itself[162] or "courage".

Max Weber acknowledged that also habits, traditions, emotions and affection may guide people directly and that direct goal-orientation is only one form of action. His categories for "social actions" are:

- **Instrumentally rational action**: Conscious action where "the end, the means, and the secondary results are rationally taken into account and weighed". May also involve multiple ends and ranking of the utility associated with each end.
- **Value-rational action**: Pursuing ends or values for their own sake. E.g. religious or spiritual actions, pursuit of ethical ends, or pursuit of artistic or aesthetic goals. The action may be an end in itself. For example, group prayer or performing music as well as forms of personal loyalty and duty.
- **Affectual action**: Actions "determined by the actor's specific affects and feeling states" (p. 25), including conscious social actions among empathetically close people but also "uncontrolled reaction to some exceptional stimulus".
- **Traditional action**: Habitual or traditional actions that are not consciously considered. (Weber 1922, p. 24-26)

A fictive case example where virtue ethics can have a clear role (and also serving as an example of Weber's "value-rational action") is that one might skip an important work gig for the rock concert of a lifetime and could skip a grand aunt's funeral for the important work gig, but would not skip a grand aunts funeral for the rock concert – not based on any maximization of utility, but rather according to what each choice is thought to tell about one's character – especially to oneself: which choices can one see oneself living with, e.g. which ones are easiest to justify so as to avoid guilt and to feel like a "good person".

Although the evolution of different kinds of "moral behavior" has been modeled (e.g. Choi & Bowles 2007), there is room for additional economic modeling incorporating agents acting according to rules of thumb (deontological ethics) or avoiding negative associations (virtue ethics) instead of mere calculations of expected outcomes (consequentialist ethics). This "ethical man" approach to human behavior and its economic implications are discussed in more detail in this book's sister, The Guilt Economy.

But the normative ethical paradigms listed above are mainly ways in which people *justify* their actions and none of them might have a dominant role in what fundamentally causes people to *make their choices*. Behavioral economics has identified many systematic deviations in human thinking and behavior from the "homo economicus" model. Steinar Holden (2012, p. 3-5) lists the following deviations:

1. **Limited cognitive abilities**

- **Heuristic judgment and choice under uncertainty:** Very low probability events are often neglected, low probability events are overweighted, while high-probability events are underweighted. Small samples are viewed as much more representative of the underlying population than what is reasonable (law of small numbers), while they attach too little weight on prior information (base-rate neglect). People put more weight on information that is more memorable and salient, for example the information received first, although it might often be irrelevant (anchoring).
- **Confirmatory bias:** Reluctance to give up formed hypotheses. Subsequent evidence is viewed in light of the existing beliefs, and often interpreted as supporting the existing beliefs.
- **Framing**: Two logically equivalent statements of a problem lead decision-makers to choose different options (e.g. a discount to retirees and students sounds more appealing than an additional fee for everyone else – related to "reference-based preferences".
- **Overconfidence:** Many individuals have an exaggerated view of their own abilities.[163]

2. **Fairness and social norms**

- **Social preferences:** utility also depends on how much other players receive.
  - Altruism: Utility is increasing in the well-being of others.
  - Relative income and envy: Utility is increasing in the income relative to others.

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161 "The chance of gain is by every man more or less overvalued, and the chance of loss is by most men under-valued, and by scarce any man, who is in tolerable health and spirits, valued more than it is worth. That the chance of gain is naturally overvalued, we may learn from the universal success of lotteries." ... "That the chance of loss is frequently undervalued, and scarce ever valued more than it is worth, we may learn from a very moderate profit of insurers." (Smith 1776, p. 93)

162 More on the cost and value of risk, see: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

163 For some more on cognitive biases, see: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

- Inequity aversion: Agents dislike inequality, even if favorable to themselves.

Intention-based reciprocity: Returning good intentions with good intentions and revenging bad intentions even at one's own expense (a signal of virtue ethics at play).

Social norms: Opinions about how other people should or should not behave (a signal of deontological ethics at play).

3. **Preferences and self-control**

- **Hyperbolic discounting**: Perceiving time differences (and thus the cost of waiting) in the far future as smaller than in the near future, i.e. discounting at a declining rate.[164]

- **"Isolation error"**: Viewing choices as separate events – e.g. averseness to small-scale risk that is insignificant in the big picture.

- **Endogenous preferences**: Motivation is affected in surprising ways. E.g. "intrinsic motivation" might be reduced if a person is paid for doing something.

- **Reference-based preferences:** Agents' utility depends on the current situation relative to a reference level, often given by recent history. The two main forms are (Tversky & Kahneman, 1991; Rabin 2003)

  - **Loss aversion:** people are more averse to losses relative to their reference level than they are attracted to the same-sized gains.

  - **Diminishing sensitivity:** the marginal change in perceived well-being is greater for changes that are close to reference level.

In most of these cases, "deviations in thinking" and "deviations in behavior" are still discussed together, and the assumption that people maximize utility prevails – although utility seems to be determined and estimated quite irrationally.

Marketing is one field that has gone yet further off the rational behavior chart. Robert Heath (2001) makes the provocative claim that conscious thought, "high-involvement processing" has little to do with the choices people make and that we are much more strongly guided by subconscious emotional associations and somatic markers. Such associations are constantly created and enforced through "low-involvement processing", which takes in everything we perceive without a critical filter, storing especially associations with emotional charges attached to them.

This model explains for example the power of subliminal marketing (e.g. logos flashing very quickly on screens) and why it is easier to affect consumers through frequency of association as well as emotional and image marketing than e.g. "rational" arguments of product performance. This process of subconscious learning and subconscious attention targeting is also a very significant process behind (allegedly pseudoscientific) fields like neuro-linguistic programming (NLP) and ideas closer to superstition like the "Law of Attraction" (that people attract things that they think about), which has been rebranded by e.g. "The Secret" "documentaries".

Also, researchers have been able to predict, using brain activity scanners, a person's choice between two alternatives multiple minutes before the person himself has become aware of having made a choice. This suggests that decision making is a much more subconscious process than we like to think.[165] (Soon et al 2008)

Even Abraham Maslow, whose famous theory considers human motivation to be driven by unfulfilled needs, notes in the introduction of the first paper presenting his theory of motivation that:

> "[m]otivation theory is not synonymous with behavior theory. The motivations are only one class of determinants of behavior." (Maslow 1943)

So, if recent research is to be believed, even the "action" we consider purposeful and goal-oriented is in fact guided much more by "reflexive" or "knee-jerk" instincts – we are just masters at justifying and rationalizing these knee jerks to ourselves in retrospect. As Benjamin Franklin put it:

> "So convenient a thing it is to be a reasonable creature, since it enables one to find or make a reason for everything one has a mind to do."

And spending more time on clarifying one's values to oneself does not necessarily help to reduce such hypocritical justification tendencies, as one study recounted by Jonathan Haidt suggests.

> "Eric Schwitzgebel, a philosopher, looked at how often books had not been returned, from lots of libraries, and the ethics books were more likely to have been not returned than other philosophy books. My guess is that moral philosophers are extremely expert in coming up with justifications for whatever they want to do."[166]

164 On discounting and time value, see "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

165 Max-Planck-Gesellschaft. "Decision-making May Be Surprisingly Unconscious Activity", 15th Apr 2008, Science Daily, cited 1.8.2014, http://www.sciencedaily.com/releases/2008/04/080414145705.htm

166 31:34->, Haidt, Jonathan. 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.

So profound is our need to find justifications for our objectives, choices and actions that this need not only rationalizes past behavior but strongly affects future behavior by e.g. reducing our willingness to receive new information – especially types that contradict our earlier justifications or would cause some other kind of "cognitive dissonance." (Cohen & Goldberg 1970; Bem 1967) The amount of "utility" that can be derived through "self-deception" and deterring new information is staggering compared to the utility of any achieved outcome itself:

> "The psychological evidence indicates that self-deceived individuals are happier than individuals who are not self-deceived (Taylor 1989, Alloy and Abramson 1979, Taylor and Brown 1988). Lack of self-deception, in fact, is a strong sign of depression." (Cowen 2005, p. 6)

> "Yet considerable research evidence suggests that overly positive self-evaluations, exaggerated perceptions of control or mastery, and unrealistic optimism are characteristic of normal human thought. Moreover, these illusions appear to promote other criteria of mental health, including the ability to care about others, the ability to be happy or contented, and the ability to engage in productive and creative work." (Taylor & Brown 1988, p. 193)

The case of justifying earlier purchases to oneself is also called "Buyer's Stockholm Syndrome".[167] This need to feel good about one's decisions is especially salient in cases where the perceived impact potential of our individual choices is itself mostly a result of (or notably inflated by) self-deception, clear cases of which are voting in national politics[168] as well as charity and "ethical consumption".[169] [170]

The "self-deception theory" (Cowen 2005, p. 17) is strongly related to people's chronic inability to ignore sunk costs[171] (costs that can no longer be avoided in any way) in evaluating alternatives, which is what a rational, outcome-optimizing agent should do. On the contrary, as a result of this and "reference-based preferences",

> "negotiators have a tendency toward irrational *escalation of commitment* – a strong psychological need to justify their prior decisions and behaviors, both to themselves and others. After you've invested a great deal of time and energy in a course of action, it's difficult to know when to quit." (*italics* in original)[172]

On a smaller scale, this can be seen e.g. in how having paid an entry fee might make one stay longer at a (disappointing) venue than one would otherwise (and even buy more drinks there) and how buying new running shoes gives one an imperative to go running more often. One does not want to feel like one has made a bad investment and rather tries to justify it by making something out of it. On the other hand one might also feel the need to compensate for a loss or turn a setback into a victory by any means – at any cost and risk. This is likely to be a big component in gambling addictions.

A study found that reminding parents of the costs and challenges of parenting makes them think more highly of the time they spend with their kids than reminding them of the benefits and joys of parenthood did.[173] Another example of costs increasing appreciation is that making the military service easier increases opposition to it. A few weeks into their training, new employees of the internet shoe shop company Zappos are offered 3000 dollars for

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com/watch?v=jHc-yMcfAY4

167 Dvorsky, George, "The 12 cognitive biases that prevent you from being rational", io9.com, 9th Jan 2013, cited 5.8.2013, http://io9.com/5974468/the-most-common-cognitive-biases-that-prevent-you-from-being-rational

168 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

169 See: this book's sister, "The Guilt Economy".

170 If life is essentially just a constant process self-deception, we can give religious faith credit for being a form of "honest" self-deception: "faith without/despite evidence". Going further, if we define "self-deception" broadly as "a tendency to avoid, ignore and reject contradicting evidence", then the three most powerful (and hence possibly most constructive and destructive) forms of self-deception are faith, hope and love. To put it bluntly, "hope" is faltering, fairly conscious self-deception (e.g. "fake it 'til you make it"), "faith" is more successful self-deception where one still acknowledges the rejection of evidence, and "love" is extremely successful self-deception that feels so good and real that *trying to question it feels like self-deception*. "Blind hope" or "blind faith" still carry a negative connotation, but "love", ideally, *is* "blind" – both romantic love (even "true love") and the Christian ideal of unconditional love for one's fellow man. "Love" of course has many meanings and can refer to many kinds of "bundles of appreciation." (See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".)
What people normally recognize as "self-deception" is actually unsuccessful or self-contradictory self-deception. The word "deception" carries a very negative connotation and one would unlikely use it for something one considers valuable and acceptable. (See: "5.1.1 Our Emotional Attachment to Words".)
What would "hope", "faith" or "love" look like if you tried to simulate them in a fully logical spreadsheet model for making predictions and optimizing decisions? "Hope" could be "correcting" the probability of desired outcomes up with a parameter. "Faith" could mean choosing or adjusting formulas so that they allow interpreting input in a desired way. "Love" could be writing straight "10"s in the outcome fields, breaching all connection to inputs (i.e. empirical observations).
The Merriam-Webster dictionary (http://www.merriam-webster.com/dictionary/) includes the following definitions:
"hope": ... "2 a : desire accompanied by expectation of or belief in fulfillment <came in *hopes* of seeing you>; *also* : expectation of fulfillment or success <no *hope* of a cure>
"faith": ... 2 "b (1) : firm belief in something for which there is no proof (2) : complete trust
3: something that is believed especially with strong conviction; *especially* : a system of religious beliefs <the Protestant *faith*>"
"love": "2 warm attachment, enthusiasm, or devotion <*love* of the sea>"

171 "Sunk cost", Investopedia, definition, cited 17.10.2013, http://www.investopedia.com/terms/s/sunkcost.asp

172 Subramanian, Guhan, "Win-Win or Hardball?" Special Report, Harvard Law School – Program of Negotiation, retrieved 15.11.2013, http://www.pon.harvard.edu/freemium/win-win-or-hardball-learn-top-strategies-from-sports-contract-negotiations/

173 18:50->, Gilbert, Dan, 2013, "The Science of Happiness: What Your Mother Didn't Tell You", lecture, viewed 15.12.2014, https://www.youtube.com/watch?v=BwQFSc9mHyA

quitting. Officially, this policy is meant to weed out those candidates who are only in it for the money, but probably a more significant impact is that this sunk opportunity cost makes the remaining employees far more committed to the company.[174]

On a bigger scale, this can be seen in company management and politicians being unable to give up projects that have been started, even when their present value[175] from that point on would surely be negative. Giving up and admitting a mistake would be a bigger "loss of face" – a psychological and political "cost" – than following through with a useless or loss-making project. The F35 Joint Strike Fighter program is one noteworthy case.[176]

Such examples, together with the phenomenon of "reference-based preferences", give good reason to doubt the validity of Ludwig von Mises's claim that people are not "historians".

> "Acting man does not look at his condition with the eyes of a historian. He is not concerned with how the present situation originated. His only concern is to make the best use of the means available today for the best possible removal of future uneasiness." (Mises 1963, p. 480)

One way to reduce the psychological pain caused by losses and the effects of sunk costs on our decisions (and moods) is another form of self-deception – forgetting them! Selectively forgetting painful memories or replacing them with nicer ones (and ones more coherent with one's current values and objectives) is a natural human coping mechanism, both conscious and unconscious.[177] As the Finnish proverb says: "Time gilds memories." The weakened ability to "let go of the past" and "live in the present" is one common symptom of depression. This is just one form of "positive thinking" that many self-help books emphasize. People also have a tendency to unconsciously suppress traumatic events, the uncovering of which is at the heart of psychoanalytic therapy.

Even where our motives are goal-oriented, the most appealing goals don't seem to be motivated by external rewards or "uneasinesses" – but our most productive drive comes often from the inside (the "endogenous preferences" in Holden's classification mentioned earlier). A lot of research emphasizes things like "self-determination" and a sense of progress and control (Deci & Ryan 2008; Pink 2009; Rock 2008).[178]

Many contemporary researchers – following Weber – like to distinguish between trait-based and value-based behavior:

> "Traits are conceptualized as fixed aspects of personality. Trait-based behavior is often confused with value-based behavior. However, the distinction between the two is important because values-based behavior suggests more cognitive control over one's actions (Roccas et al. 2002). One may have a disposition toward being aggressive (a trait) but may not highly value aggression (Epstein 1989). Roccas et al. (2002) suggest the following differences: Traits are enduring dispositions; values are enduring goals. Traits may be positive or negative; values are considered primarily positive. People refer to values when justifying behavior as legitimate. Values, but not traits, serve as standards for judging others' (and one's own) behavior." (Hitlin & Piliavin 2004, p. 361)

But emphasizing the latter part of the above quote, we could also assert that most human behavior is mostly "trait-based": We just call "value-based" those actions for which we are able to find justifications (or judgments) in our conscious value frameworks.

> "Our hypothesis is that the function of reasoning is argumentative. It is to devise and evaluate arguments intended to persuade."... "Skilled arguers are ... not after the truth but after arguments supporting their view." (Mercier & Sperber 2011, p. 57)

If we use the common metaphor of the Elephant (our emotional and instinctual side) and the Rider (our rational side), (Heath & Heath 2010; Haidt 2006) we could say that the Riders, trying to maintain an illusion of control, often focus on explaining why they *wanted* the Elephant to go where it is going – and shouting at other Riders – instead of trying to better understand their Elephants' behavior.

Our need to distinguish *ethics* strictly from *aesthetics* (and other preferences) can also be seen as a symptom of this need to find more universally accepted justifications for our actions.[179]

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174 41:56->, "The Upside of Quitting", podcast, Freakonomics, The Hidden Side of Everything, 30th Sep 2011, 30.1.2015, http://freakonomics.com/2011/09/30/new-freakonomics-radio-podcast-the-upside-of-quitting/

175 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

176 Kopp, Carlo & Goon, Peter, 2009, "F-35 Joint Strike Fighter Program: Collapse is a 'When' Question, not an 'If' Question", Air Power Australia NOTAM, 17th Aug 2010, cited 28.2.2013, http://www.ausairpower.net/APA-NOTAM-170809-1.html
Wheeler, Winslow, "How the F-35 Nearly Doubled In Price (And Why You Didn't Know)", Time Magazine, 9th Jul 2012, cited 28.2.2013, http://nation.time.com/2012/07/09/f-35-nearly-doubles-in-cost-but-you-dont-know-thanks-to-its-rubber-baseline/

177 Vayrynen, Mikko & Puttonen, Mikko, 2013, "Kaikkea ei kannata muistaa", Tiede 11/2013, cited 25.8.2014, http://www.tiede.fi/artikkeli/jutut/artikkelit/kaikkea_ei_kannata_muistaa

178 See also: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

179 See: this book's sister, "The Guilt Economy".

To go further, we could even consider the whole idea of "free will" (or "cognitive control") to be largely an illusion sustained by our human need for a sense of control and our "narcissism" of needing to feel valuable and influential and thereby wanting to think that our "values" and "wants" are somehow our own, intrinsic properties or ones that we have "chosen" without any external influences.[180]

To conclude, experienced value by a human being is largely a matter of perception – which depends on the person's adopted perspective and other circumstantial issues (like hormone balances) and it is highly questionable whether the maximization of such value is a truly descriptive model of human decision-making. No wonder Silvio Gesell called "value" "a fantasy", which "has no place in the world of reality." (Gesell 1916, Part 3, Ch. 3)

Yet, this does not mean that we cannot get empirically verifiable results by *modeling* human behavior in economic systems with such utility maximizing agents using more complex "utility functions"[181] (including factors like empathy, guilt-avoidance[182] etc.), correcting with some biases[183] and being careful not to neglect sensitivity analyses regarding the assumptions made. We can "see utility only as a numerical representation of each person's choice behavior". (Sen 1997, p. 391) Research suggests that human beings are "predictably irrational". (Ariely 2008)

Regardless of what we see the role of perceived, subjective value to be in determining human decisions and action, we can still agree that "appreciation" – attributing value to an entity, state, outcome or aspect etc. – is a feeling humans experience and that they usually like to experience. As "liking" can almost be considered synonymous with "appreciating", we could say that people mostly "like liking things" – especially things about themselves and their own lives – although they love to hate some things too, and make forms of self-loathing (and the negative stories they tell about themselves to themselves) components of the identities that they cling to. (Harris 2008)

There is a lot of diversity in individuals' values, but one framework of how different values could be categorized can be found in "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

> "It seems that I have spent my entire time trying to make life more rational and that it was all wasted effort." – Alfred Jules Ayer, (as quoted in The Observer 17 August 1986)

> "Economics is about understanding resource allocation in the world." … "So I think understanding choice: understanding how to influence choice, the incentive structures, the regulatory structures around choice, is the heart of economics." – Ian Goldin (Director, James Martin 21st Century School, Oxford University)[184]

> "The future of this subject lies in looking at what people actually do – rather than imposing models of how we think they ought to behave on their behavior. We tell people that the way you should think about risks is you write down a list of all the possible outcomes, you attach values to these outcomes, you assess probabilities and you make your decision on that basis. Now, I don't think like that – I don't. And I've been teaching this stuff for years. I don't know anyone who actually thinks and behaves like that." – John Kay (Columnist, Financial Times)[185]

> "When we encounter the suicide of somebody else, we always seem to try to rationalize it. I hear it all the time. And I think that's because we're uncomfortable with feeling helpless and with not understanding." – Mark Henick, Why We Choose Suicide[186]

> "What is demanded of man is not, as some existential philosophers teach, to endure the meaninglessness of life, but rather to bear his incapacity to grasp its unconditional meaningfulness in rational terms." – Viktor E. Frankl, Man's Search for Meaning (1946)

180 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

181 We should be especially aware that monetary incentive are not the only thing motivating people. E.g. social and moral incentives often weigh much more, and economic compensation might have unexpected effects e.g. when it starts cannibalizing these other incentives. (See: "3.2.2 Unfair Income Differences and Limits to Social Mobility")

182 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

183 See: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

184 3:03 & 3:30->, "Advice to Young Economists", INET Economics, viewed 31.5.2014, https://www.youtube.com/watch?v=5QMbPWh6Ohk

185 2:06->, "Advice to Young Economists", INET Economics, viewed 31.5.2014, https://www.youtube.com/watch?v=5QMbPWh6Ohk

186 11:34->, Henick, Mark, 2013, "Why we choose suicide", TEDxToronto, viewed 20.3.2014, https://www.youtube.com/watch?v=D1QoyTmeAYw

"[T]his is what we do: When we want to condemn someone, we look really, really hard for reasons." ... "Humans do one thing very, very well: We're really good at finding evidence to support what we want to believe and, related to that, finding evidence to disconfirm what others want to believe." – Jonathan Haidt[187]

187 16:07-> & 35:28->, Haidt, Jonathan, "The Rationalist Delusion in Moral Psychology", lecture, viewed 20.2.2014, http://www.youtube.com/watch?v=kI1wQswRVaU

"It's all in your head the thoughts you have that build your world illusion,
The faith you need so you can proceed and build a sane solution.
But is it the truth, is there any proof to back up the things you believe in?
Or is it a dream to make it seem like a goal that you're achieving?
We are the prisoners of the system we create
We are the prisoners, stuck inside the space we made, to escape." – Clawfinger, Prisoners

Sidenote Box 113A: Objective Value Theories and Morality

There are, of course, also objective theories of value. Examples include different labor theories of value. Karl Marx's "law of value" is a variation of this, where the value of a good is the amount of labor "socially necessary" to produce it:

> *"We see then that that which determines the magnitude of the value of any article is the amount of labour socially necessary, or the labour time socially necessary for its production." (Marx 1887, p. 28)*

In Marx's terms, the value of a commodity actually *falls* when the work required to produce it is decreased due to increased productivity. (Marx 1887 p. 36) Marx's definition of "value" draws from Aristotle's idea that "exchange cannot take place without equality, and equality not without commensurability". Hence, to Marx, the fact that commodities can be traded for each other means that they all are essentially embodiments of human labor and that all kinds human labor has to be equal in value.[188]

There are many fairly peculiar conclusions here. Firstly, if the exchange of two (bundels of) items would mean that they are equal in value, what would be the purpose and value of such an exchange? Nothing would be gained. In many (other) schools of economic thought, it is precisely the fact that both parties value what they get more than what they give that makes trade value-creating. Secondly, the idea of all human labor being equal is problematic to begin with due to the difficulty of drawing a strict line between what kind of activity *is* labor and what is not. Is performing a play to entertain your friends (and enjoying it yourself) labor or not? It is a bit awkward, how Marx defines "value" as a *relation between people* and as

188 "[Aristotle] further sees that the value relation which gives rise to this expression makes it necessary that the house should qualitatively be made the equal of the bed, and that, without such an equalisation, these two clearly different things could not be compared with each other as commensurable quantities. 'Exchange,' he says, 'cannot take place without equality, and equality not without commensurability'.
There was, however, an important fact which prevented Aristotle from seeing that, to attribute value to commodities, is merely a mode of expressing all labour as equal human labour, and consequently as labour of equal quality. Greek society was founded upon slavery, and had, therefore, for its natural basis, the inequality of men and of their labour powers. The secret of the expression of value, namely, that all kinds of labour are equal and equivalent, because, and so far as they are human labour in general, cannot be deciphered, until the notion of human equality has already acquired the fixity of a popular prejudice." (Marx 1887, p. 39)
"Hence, when we bring the products of our labour into relation with each other as values, it is not because we see in these articles the material receptacles of homogeneous human labour. Quite the contrary: whenever, by an exchange, we equate as values our different products, by that very act, we also equate, as human labour, the different kinds of labour expended upon them. We are not aware of this, nevertheless we do it." (Marx 1887, p. 48)

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something separate from both "use value"[189] and "exchange value"[190] (though something that "manifests itself in exchange value" (Marx 1887, p. 27)[191]) and downplays the effects of use value on people's exchange behavior. Marx's theory of value is a form of cost-based valuation and one that assumes an hour of all kinds of work to be equally "costly". In cost-based valuation, the production of "added value" is impossible.

Adam Smith had a different version of a labor theory of value, where the value of a good is determined by how much labor it can currently save or command in others:

> "The real price of every thing, what every thing really costs to the man who wants to acquire it, is the toil and trouble of acquiring it. What every thing is really worth to the man who has acquired it and who wants to dispose of it, or exchange it for something else, is the toil and trouble which it can save to himself, and which it can impose upon other people. What is bought with money, or with goods, is purchased by labour, as much as what we acquire by the toil of our own body. That money, or those goods, indeed, save us this toil." (Smith 1776, p. 31)

So Adam Smith, too, defines value as the absence of (or relief from) cost, defining cost as toil, but unlike Marx, allows different kinds of work to be more toilful – and hence more costly – than others and different in their inconvenience to different people. It is therefore not quite an objective theory of value and does allow the creation of "added value" by increasing productivity.[192]

As another example of an objective value theory, it is common for environmentalist ideologies to take biological life as an absolute value and therefore measure the value of an entity as its "demonstrated capacity of an output to sustain and enhance life." When reading this book, however, it is very important to remember that we consider "value" *a completely subjective phenomenon* dependent on an individual's ability and tendency to appreciate things – her *preferences*. In the above case, the value such "environmentalists" attribute to biological life is considered to be their personal, subjective opinion – a feeling, which they think they have a right to expect others to feel. This is actually how we could define "morals".[193] The idea of the absolute value of life as a normative starting point for constructing a society and economy is discussed further in "2.1.2 Life, Diversity and Sustainability as a Normative Maxims".

Theories of intrinsic or objective value often involve an idea of some universal purpose for which something exists. In Adam Smith's theory of value, a universal objective for a human being seems to be the – rather utilitarian – minimization of toil and discomfort.[194] Ideas of universal maxims (and kinds of natural morality) can be promoted by the observation that also other systems, which have no human participants or external human benefactors, can be described as "economic systems" in the sense that they allocate resources to different activities. Examples range from biological life forms (including the human body) and ecosystems to the flows of magma within the Earth's core and the occurrence of chemical reactions in a solution. We humans tend to want to overinterpret purpose, which is a part of the "pathetic fallacy": perceiving non-human entities as having humanlike characteristics, such as the ability to suffer (taking expressions like "the nature suffers" literally), ambitions or needs for purpose and autonomy. This can be seen as a side effect of our empathic instinct: the "mirror cells" in our brains responding to how something is treated as if we were in its position ourselves. As a result, we easily conclude that anything resembling our economic system (or working like a human-designed machine) must be existing for some greater purpose[195] such as maximizing

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189 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

190 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

191 "Therefore, the common substance that manifests itself in the exchange value of commodities, whenever they are exchanged, is their value." (Marx 1887, p. 27)

192 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

193 According to ethical emotivism, to make a moral judgment is to express one's emotions and invite others to share them and act on them.

> "In fact we may define the meaning of the various ethical words in terms both of the different feelings they are ordinarily taken to express, and also the different responses which they are calculated to provoke." (Ayer 1936, p. 111)

Human morality and its quirks are the subjects of this book's sister, "The Guilt Economy."

194 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

195 9:21->, Dawkins, Richard, "The purpose of purpose", lecture, Mar 2009, viewed 20.10.2013, http://www.youtube.com/watch?v=2xJZOti-

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some kind of "value" for some entity – like our economic system for many of us exists to maximize produced value.[196] It is easy to confuse *cause* with *purpose – causality*[197] with *intention*.

Even if nature doesn't value things in the same way as we do, individual biological life forms can also be considered to have some kinds of goals or maxims of their own that guide their behavior and functionalities. Also, it is often easier to describe natural processes with expressions where the system itself is an "agent", as in Darwin's "natural selection" (the idea that nature "selects" the fittest individuals and flocks), but it is important to remember that such a personification does not make nature itself a human-like creature.

In terms of physical and ecological processes, one measure of "efficiency" is often the allocation and use of energy. Though energy might seem like something universal the use of which everything in the world seems to optimize somehow, saving or producing energy has no objective *value* as such – not to human beings nor to our ecosystems nor the universe. A clear example is the excessive storage of energy in the human body as fat – which our current Western cultures often value negatively – and the notion that too much concentrated or uncontrolled energy can become destructive, e.g. in the form of a fire.

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196 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources" and "2.1 Normative Principles – What Do We Want from an Economic System?".

197 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units

In short:

- ***Products or services have no value unless someone consumes them – i.e. uses or otherwise appreciates them.***
- ***"Productivity" can be defined in many ways and measured in different units, which causes a lot of confusion. We can measure the productivity in any output per any input for a process.***

> "All production is for the purpose of ultimately satisfying a consumer." … "Consumption – to repeat the obvious – is the sole end and object of all economic activity." – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 37 & 70)

> "For most products the compulsion to sell is absolute; for industrial products this is a rule without exceptions. For this reason work is at once interrupted if a disturbance occurs in the sale of the products. Will a tailor continue to make clothes for which he cannot find customers?" – Silvio Gesell, The Natural Economic Order (1916, Part 3, Ch. 2)

> "Use values become a reality only by use or consumption: they also constitute the substance of all wealth, whatever may be the social form of that wealth." – Karl Marx, Capital (1887, p. 26)

One useful conclusion we can draw from the idea of subjective value, is that goods and services have no value unless someone *consumes* them – gives them value i.e. *appreciates* (values) them. Cinnamon rolls that you've baked have no value unless someone eats them (or at least e.g. appreciates their freshly baked smell or other property thereof). The baking itself might be fun and thus have value, but the outputs have no value if they go to waste. A house you've built goes to waste if no one lives in it, i.e. consumes the accommodation service that the house

– a form of capital[198] – provides. Encyclopaedia Britannica gives this "utilization" definition to "consumption":

> "**consumption**, in economics, the use of goods and services by households. Consumption is distinct from consumption expenditure, which is the purchase of goods and services for use by households. Consumption differs from consumption expenditure primarily because durable goods, such as automobiles, generate an expenditure mainly in the period when they are purchased, but they generate 'consumption services' (for example, an automobile provides transportation services) until they are replaced or scrapped."[199]

This definition of consumption would be equivalent to Irving Fisher's concept of "subjective income" or "enjoyment income"[200] (Fisher 1930, p. 11-12). However, in mainstream economic theories *"consumption"* is often used in the sense of "consumption expenditure", i.e. "consumer spending", i.e. "spending money"[201], i.e. Fisher's "real income" (Fisher 1930, p. 13).[202] This is for example the case with the *"consumption function"*, which attempts to draw a connection between people's earnings and spending.[203]

In any case, "consumption" in economics means a very different thing than "consumption" in ecological systems (where it means using other life forms as a source of energy) and does not necessarily involve "using anything up" although many (formal and less formal) definition sources like to assume this aspect.

For example the Merriam-Webster dictionary gives the following economics definition:

> "3. the utilization of economic goods in the satisfaction of wants or in the process of production resulting chiefly in their destruction, deterioration, or transformation."[204]

Farlex's Free Dictionary says:

> "The using up of goods and services by consumer purchasing or in the production of other goods."[205]

BusinessDictionary.com is even more blunt:

> "The process in which the substance of a thing is completely destroyed, used up, or incorporated or transformed into something else. Consumption of goods and services is the amount of them used in a particular time period."[206]

Also the fact that "capital consumption" means the *deterioration* of capital goods (in their use or otherwise) causes further confusion.[207] Emphasizing the "destruction and transformation" parts of the above definitions would not allow e.g. living in a house to be called "consuming" its accommodation services. The Encyclopaedia Britannica definition also allows calling the utilization of freely provided public services "consumption." E.g. walking in a public park is "consuming" the recreational services it provides. One can be a "regular consumer of jazz music" even when one only listens to it on the radio and at free concerts.

As John Maynard Keynes puts it in his General Theory:

> "All production is for the purpose of ultimately satisfying a consumer." (Keynes 1936, p. 37)
>
> "Consumption – to repeat the obvious – is the sole end and object of all economic activity." (Keynes 1936, p. 70)

Production creates no value whatsoever (except for possible work enjoyment) if no one consumes the goods and services produced. Without consumption, production is purely *waste*.[208]

Public policy discussion could be far more constructive if more people were able to distinguish between:

- Destroying or degrading natural resources
- Utilizing/employing natural resources
- Spending money, i.e. letting other people pay their debts back
- Consuming value, i.e. enjoying and appreciating things

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198 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

199 "Consumption", entry, Encyclopaedia Britannica, cited 2.8.2013, http://global.britannica.com/EBchecked/topic/134578/consumption

200 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

201 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

202 "Thus we have a picture of three successive stages, or aspects, of a man's income:
Enjoyment or psychic income, consisting of agreeable sensations and experiences;
Real income measured by the cost of living;
Money income, consisting of the money received by a man for meeting his costs of living;
The last – money income – is most commonly called income; and the first – enjoyment income – is the most fundamental. But, for accounting purposes, real income, as measured by the cost of living, is the most practical." (Fisher 1930, p. 13)

203 "Consumption function", definition, Investopedia, cited 2.8.2013, http://www.investopedia.com/terms/c/consumptionfunction.asp

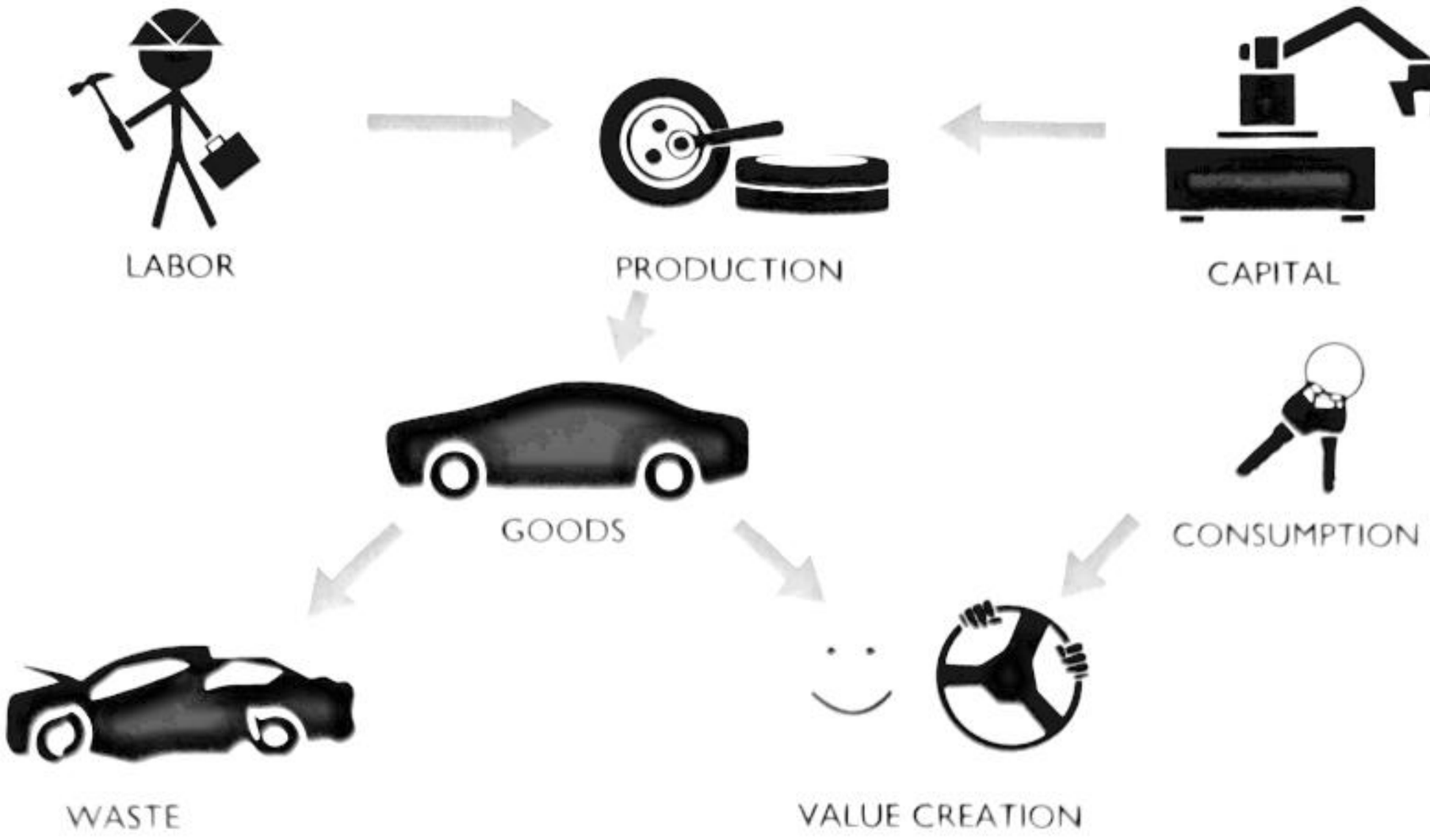
204 "Consumption", entry, Merriam-Webster Dictionary, cited 2.8.2013, http://www.merriam-webster.com/dictionary/consumption

205 "Consumption", entry, The Free Dictionary by Farlex, cited 2.8.2013 http://www.thefreedictionary.com/consumption

206 "Consumption", entry, BusinessDictionary.com, cited 2.8.2013 http://www.businessdictionary.com/definition/consumption.html

207 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

208 For how this makes objectives of "abundance" and "eliminating scarcity" problematic, see: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".



GRAPH 1: THE PRODUCTION OF GOODS HAS NO VALUE UNLESS THE GOODS ARE CONSUMED.

How confusing words like "consumption" are further boosting our outdated "Protestant work ethics" that like to demonize spending and give absolute value to work and frugality is discussed in more detail in this book's sister "The Guilt Economy".

In this book, "consumption" is used both in the meaning of (1) spending money (i.e. consumption expenditure) and (2) appreciating any kinds of products. The first is primarily the definition when discussing economic growth (increases in economic activity) and cash flows. The latter definition also allows the "consumption" of public services and acknowledging the value of activity where no money changes hands – i.e. debts and credits are not accounted for[209] – such as voluntary work and parenting.

The values – or rather objectives – of organizations and institutions are not always those of all the collective participants, but they are usually established to serve ends of some subjective, human values determined e.g. by their founders or owners. But if the values are successfully "implemented"/"embedded" in the organization, the individuals working in the organization might take on roles in which they serve these values and strive for these objectives. For example companies (profit-seeking corporations[210]) aim to produce value for their shareholders, whereas foundations and trusts aim to promote some predetermined objectives of the establishers (making them quite dangerous entities).[211]

However, this does not mean that all established institutions would be benefitting some group of people. Institutions – meaning both organizations (e.g. labor unions, governmental agencies) and established socio-economic and legal constructs (e.g. marriage, trade, private property, whale watching) – might start living "a life of their own" and prioritizing the preservation of their own existence over the end for which they were originally established – or for which they were seen to emerge. This is especially likely with institutions without any clear "owners" and continuous corporate governance systems. More on this problem and its policy implications in "5.1.4 Institutional Interests – Rogue Agents without a Principal".

"Productivity" (or efficiency) of a process or an entity can be defined broadly as "outputs per inputs". We can measure productivity for any output (its quantity and/or quality) per any used input (resource). For example one hypothetical productivity metric for a government could be the output of pages of law per the square meters of office space used by government buildings. Such a useless productivity metric (making more or longer laws is not necessarily a desirable objective[212]) serves to show

209 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

210 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

211 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

212 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How

why choosing relevant units for both the nominator and denominator of productivity is very important. When using multiple inputs, they have to be somehow commensurable, so that they can be aggregated into one number in the denominator.[213]

For a value-maximizing agent (one with a "one-axis" utility function, e.g. the hypothetical "homo economicus"[214], or a company aiming to maximize value for shareholders[215], or if we rated our economic system according to some value function[216]) the most meaningful type of productivity would be how much net value it manages to produce (created value minus incurred *costs*, i.e. losses of value) per the most limited resource available – the *bottleneck resource*. For a startup company tight on finance, the most limited resource might be the seed funding it has gathered. From the perspective of an individual human being, time is often the most limited resource, and therefore a "rational" person expected to maximize his lifetime value would aim at maximizing total value per hour, in which case the relevant unit of the productivity of one's labor – or any activity – would be:

(CreatedValue – LostValue) / Time[217]

Most commonly, when talking about "productivity", people mean *labor productivity*. But even then there are many ways we can define labor[218] and many units we can use for it. In many cases – e.g. in management or creative tasks – measuring work in hours makes little sense.[219]

Costs can be split into *"actual costs"* – existing value destroyed in the production process – and *"opportunity costs"* – value that could otherwise have been produced with the resources used, i.e. the options given up when making a choice. Opportunity costs are very relevant in calculations aiming at making optimal choices and often it is difficult to make a clear distinction between *"opportunity costs"* and "actual costs": Even the value of actually lost resources fundamentally depends on their possible alternative uses. Using a resource in production that would have no alternative uses is actually not a cost at all. "Costs" are simply everything that is given up to get something, whether those things ever existed or not.

But from a subjective point of view, opportunity costs are quite a paradoxical phenomenon: Additional (good) alternatives tend to lower the perceived value of the choice we end up making and make it harder to make decisions at all.[220] If opportunity costs are just as real costs as other costs (all of which are perceived as value is perceived), then "satisficing" and "self-deception"[221] both start looking like very sensible ("rational") strategies. They avoid unnecessary search costs and protect one from the opportunity costs of finding an almost-as-good alternative. It starts looking much more safe and "profitable" to pick a choice one can easily justify for oneself out of a limited range of options. This would apply both in the (self-defeating) definition of value or happiness as "satisfaction", but also if one considers "happiness" to be about the feeling of being able to make the world better[222], as a choice between two almost equally "good" options "produces" less value compared to choosing one perceived as superior. This "paradox of choice" is returned to in "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice" and "2.1.6 Conclusions – How about a Game Design Approach?".

As outcomes of actions are seldom completely certain, both produced value and actual costs also include the costs of (perceived) *risks*, which can, in some cases, also be negative as will be discussed in "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

As "value" can, additionally to subjective value (utility), refer to *market value*, price,[223] we could also distinguish between *"utility productivity"* and *"market value productivity"*. In the case of e.g. labor, the utility for a worker is how much he receives enjoyment from the work *plus* the value of the things he can buy with the compensation (wages, benefits etc.) for the work minus how much he loses in alternative possible enjoyment he could gain with that time. Utility productivity could be measured as this *added value* per time. For the total "utility" of the work for the whole economy, we'd just leave out the compensation from the equation and subtract the opportunity costs of the lost time from work enjoyment and utility of the end products.

Of course, as subjective value (work enjoyment, total utility of products) is practically impossible to quantify

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e.g. Marketing and Finance Are Productive".

213 "Productivity" tends to be a scalar, but theoretically we could also form a vector of different outputs per the same input.

214 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

215 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

216 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

217 One problem with the intuitive alternative of measuring productivity as *"CreatedValue / LostValue"*, is that if the work one does happens to be the activity one enjoys doing the most (i.e. it has no cost) the productivity of such labor would be "infinite"!

218 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production"

220 Schwartz, Barry, 2005, "The paradox of choice", TED Talk, viewed 8.5.2013, http://www.ted.com/talks/barry_schwartz_on_the_paradox_of_choice.html

221 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

222 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

223 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

numerically,[224] so is such utility productivity. "Market value productivity", based on the sales prices of the end products is far easier to quantify and aggregate into one number, but such a measure of productivity discriminates against voluntary work, where the end products might have hardly any market price (e.g. parenting or tickets to a voluntary effort musical production), as the activity itself produces value for both participants without any need to transfer value back to the producers in the form of compensation. Determining the value of activities in a society based on the revenues it involves – e.g. welfare in a society by GDP[225] – is thoroughly misleading.

A company itself does not *appreciate* things subjectively, but attempts to maximize the value produced for its shareholders,[226] and usually most of this value is transferred to the shareholders as monetary dividends paid out of the profits the company makes. Therefore, it makes sense for a company to measure the productivity of labor as the additional value the labor allows the company to *capture* in the form of sales revenues minus the wages and other costs of employing the labor.[227] Consequently, it makes sense for a company to focus on "market value productivity",[228] when deciding what labor to employ and how much. ("Profitability" is also affected by the amount of capital employed in the production and by the risks involved in the investment, venture or business, as these affect the profit requirement of capital.[229])

Unfortunately, commonly used units of productivity have given the word "productivity" a very negative taint,[230] at least in political discussion. It is common to e.g. measure labor productivity in terms of output or financial gains achieved *per person* and therefore "productivity" to many means piling up more work on individual people. Also, due to a lack of competition over employees, such forced increases in profitability for a company are possible while decreasing the subjective productivity for employees and possibly the whole economy in net.[231] The whole idea of an employee – a human being – being the default unit of labor is one of the fundamental ideas that this book aims to question[232].

When "productivity" successfully encompasses all value produced and costs incurred (including any externality effects imposed on others[233]), increasing productivity can in most cases be considered a sensible objective.[234] But the trouble is that all such value is subjective. We can only compare (labor or any other) productivity objectively as *unit productivity* when the outputs are similar or otherwise commensurable – e.g. used for the same ends. This is especially important to remember when someone tries to justify income differences between different professions by arguing that their "productivity is different."[235]

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224 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

225 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?" and "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

226 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

227 See: "Graph 9: Distribution of value produced by a company.", p. 92.

228 This is why profit-seeking companies easily become mainly "rent-seeking" (see: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive") – instead of net value producing – when competition does not work fairly or when externalities can be imposed on others without incurring a cost (see: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land", "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "3.4 Environmental Sustainability".

229 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production

230 See: "5.1.1 Our Emotional Attachment to Words".

231 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility" and "3.3.4 Slave-Rate Wages, Inhumane Working Conditions and Child Labor".

232 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

233 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

234 However, on the level of the whole economy, measuring productivity increases is sometimes challenging, as it is hard to compare accurately the quality and value of old services and new ones that replace them. This issue will be discussed in "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

235 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy

In short:

- *We can't know directly what others want and we are often unable to quantify even our own needs and preferences.*
- *The only way to "measure value" is making people make choices between alternatives under scarcity. This is the main reason why we need private property, trade and keeping track of favors with a credit system.*
- *Things that cannot be exchanged – or which one wouldn't exchange – on a market for credit or anything else are "priceless" (which does not mean that their value would be zero or infinite, but that their value to a person is incommensurable with anything else).*

"He who knows others is wise; he who knows himself is enlightened." – Lao Tzu

"For none of us can ever give the exact measure of his needs or his thoughts or his sorrows, and language is a cracked kettle on which we beat out tunes for bears to dance to, while all the time we long to move the stars to pity." – Gustave Flaubert, Madame Bovary

"The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess." ... "It is ... a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know." – Friedrich A. Hayek, The Use of Knowledge in Society (1945)

"And what we've done in human society through exchange and specialization is we've created the ability to do things that we don't even understand. It's not the same with language. With language we have to transfer ideas that we understand with each other, but with technology we can actually do things that are beyond our capabilities. We've gone beyond the capacity of the human mind to an extraordinary degree." – Matt Ridley, When Ideas Have Sex[236]

"Buying is cheaper than asking." – German proverb

In "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources", we established that cooperation requires trust – being able to anticipate others' actions and responses. But why does this trust require explicit contracts such as private property (limitations of rights to use and control assets), *trading* these rights between individuals or enforcement of promises by explicit threats (laws regarding credit)? If we all know that we are dependent on cooperation, that cooperation benefits everyone and that we also have natural social needs and empathic tendencies, why don't we just all work for the common good without worrying about what exactly each of us gets in return? Why can't we just *discuss* and *plan* how "scarce resources should be allocated toward alternative desirable ends"? Wouldn't that suffice for an economic system? This is the way families, primitive tribal societies and many other smaller organizations work. In these, trust is purely based on personal, empathic relationships, which Friedrich Tönnies called "Gemeinschaft" relationships as opposed to non-empathic "Gesellschaft" relationships where direct personal gain is the primary objective. (Aro & Jokivuori 2010, p. 111-129)

Theoretically, if we had complete understanding of other people's needs and values, were able to compare them directly (and numerically) with our own needs and had unlimited empathic capacity, we would not need private property or trade – and by this I mean that we could just cooperate, share the results and do each other favors

236 14:24->, Ridley, Matt, 2010, "When Ideas Have Sex", TED Talk, viewed 12.12.2012, http://www.ted.com/talks/matt_ridley_when_ideas_have_sex.html

without keeping account of how much each contributes or gets benefits. "Everyone according to his ability; to everyone according to his need" could work fairly well by itself.[237] We'd experience the same value the receiver experiences through our empathic capacity plus a hefty bonus in added self-worth from feeling more useful – a "contribution premium"[238] – even without getting anything physical in return. And we'd also know exactly what to give. Expressions of gratitude and appreciation would be the only currency – a way of transferring value – in this kind of economy. And assuming that we could be sure of our complete understanding of others' values, even expressions of gratitude would be unnecessary.

Unfortunately our capacity for deeper empathy is limited to a handful of people and on a more shallow level to around 100-230 individuals. This is the range normally suggested for *Dunbar's number*, which is an approximate limit to the number of relationships in which an individual knows who each person is, and how each person relates to most other people. Anthropologist Robin Dunbar theorized that with social animal species the number is proportional to the relative size of the neocortex. One big factor that this increase in brain size has allowed is the development of language, which allows more efficient maintenance of social relationships by e.g. learning about many people's behavior from one person through gossiping. (Dunbar 1993; Dunbar 1998; Christensen 2001) Further expanding the human social capacity significantly beyond this is likely to prove difficult.[239]

Seven billion or even the population of an average city would be way beyond our capacity of forming empathic relationships (as even the size of the number is beyond our capacity of comprehension). Even if you met – really introduced yourselves to – three new people every day, you would still only *meet* less than 100 000 people during your whole lifespan. Additionally, the well-being of your family or immediate community are things on which you can have a clearly visible impact, but the impact on a larger group is quickly diluted, making it a less motivating "Game"[240] – even if you managed to extend your empathy to such a scale. This "drop in the ocean" factor is also one common explanation for the "Mother Theresa Effect": that people are much more likely to donate to charity when they are told they are helping a specific individual than when asked to give for a more general cause.[241] Stories are more influential than statistics. Also, people find "fairness" and reciprocity intrinsically motivating and empathy-enhancing. (Rock 2008)

Tania Singer from the Max Planck Institute for Human Cognitive and Brain Sciences suggests that excessive empathy can easily become emotionally exhausting and it is a major cause of depression and burnout in for example healthcare professions.[242]

For example Charles Eisenstein (2011) blames money for facilitating trade without empathic, unique relations and thereby inducing "separation" between people[243] (much like sociologist Émile Durkheim blamed capitalism and the division of labor for "anomie": a state of normlessness and amorality (1893, p. 291-309)), and calls for a return to a "gift economy". In light of our limited empathic capacity, we could argue that this – making specialization possible productively beyond small collectives – is the *best* aspect of monetary trade. Milton Friedman emphasizes this anonymity and also points out how it can reduce discrimination:

> "In fact the beauty of the price system is in [that] when you buy this pencil you have no idea [of] the religion of the people whose work went into it. When you buy your daily bread, you have no idea whether the wheat was grown by a black man or a white man, by a Chinaman or an Indian or anybody else. And as a result, the price system enables you to have cooperation among millions of people peacefully, cooperating on one little phase of their life, while each one goes about their own business in respect of everything else."[244]

And as Eisenstein writes:

> "With the rare, perhaps theoretical, exceptions that Derrida called 'free gifts,' gifts are accompanied either by some token of exchange or by a moral or social obligation (or both). Unlike a modern money transaction, which is closed and leaves no obligation, a gift transaction is open-ended, creating an ongoing

237 See: "2.1.3 Anarchist Communism: 'Everyone According to His Ability, to Everyone According to His Needs.

238 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

239 See also: Cohen, Shimi, "The Innovation of Loneliness", animation, cited 16.1.2014, http://www.youtube.com/watch?v=c6Bkr_udado

240 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

241 "The Mother Theresa Effect", National Post, cited 22.5.2014, http://www.nationalpost.com/story.html?id=8cf455d9-8634-4cb1-972f-03dd9621350b

242 Solon, Olivia, "Compassion over empathy could help prevent emotional burnout", Wired, 12th July 2012, cited 1.8.2014, http://www.wired.co.uk/news/archive/2012-07/12/tania-singer-compassion-burnout

243 "Money is a key element of the story of Separation that defines our civilization." ... "The distant origins of our things, the anonymity of our relationships, and the lack of visible consequences in the production and disposal of our commodities all deny relatedness. Thus we live without the experience of sacredness. Of course, of all things that deny uniqueness and relatedness, money is foremost." ... "What is the difference between a supermarket tomato and one grown in my neighbor's garden and given to me?" ... "The essential differences all arise from specific relationships that incorporate the uniqueness of giver and receiver." ... "Today we live under a barrage of sameness, of impersonality. Even customized products, if mass-produced, offer only a few permutations of the same standard building blocks. This sameness deadens the soul and cheapens life." (Eisenstein 2011)

244 6.32->, Friedman, Milton, "Lesson of the pencil", television lecture, viewed 25.1.2014, http://www.youtube.com/watch?v=4ERbC7IyCfU

> tie between the participants. Another way of looking at it is that the gift partakes of the giver, and that when we give a gift, we give something of ourselves." (Eisenstein 2011)

"Psychological debt", in the form of guilt or another kind of moral or social obligation, is often much heavier to bear than an explicit, monetary debt, and with the latter we at least know when it has been "settled". Such empathic gift-giving can strengthen bonds between close people and remembering to feel gratitude is of course important, but doing such gift transactions for every single good or service would just be emotionally exhausting. As the German proverb says, "buying is cheaper than asking."

Setting aside our empathic capacity, we often have a hard time comprehending and predicting what others really value - even people with whom we've spent a lot of time. Couples of many decades or close relatives might still unintentionally buy each other presents that the other does not appreciate or, worse yet, finds offensive. And as explained in "1.1.3 Value Is Subjective and Perceived - Rationality Is Largely an Illusion", we cannot even put our own values into numbers numbers on request. The only way to "measure" the value one attributes to an item, a favor or an experience, is by comparing it to the value of other items or favors and forcing one to make a choice between them. This is called giving the object a price, i.e. determining what else you'd be willing to trade (give up) for it (which von Mises referred to as the "valuation process").

Things you wouldn't trade for anything else - especially not for the dominant point-of-reference used in the labor market[245] - are *priceless*. This is analogous to the term *"incommensurable"* used in mathematics and the philosophy of science for referring to two things that don't have a common unit for comparing them.

Also Friedrich Hayek argues for the necessity of a market economy over centrally planned resource allocation on the grounds that all the needed information regarding the relative importances of ends is dispersed into the minds of many different people and cannot be aggregated reliably.

> "If we possess all the relevant information, if we can start out from a given system of preferences, and if we command complete knowledge of available means, the problem which remains is purely one of logic." ... "[T]he 'data' from which the economic calculus starts are never for the whole society 'given' to a single mind which could work out the implications and can never be so given." (Hayek 1945)

However, according to recent research, we could argue that people often don't know very well what they want themselves either, (Taleb 2012, p. 169-171) and that they can only put things in a preference order and "quantify" their needs when forced to make choices between alternatives under scarcity, as explained in "1.1.3 Value Is Subjective and Perceived - Rationality Is Largely an Illusion".

By conducting voluntary transactions of exchanging one thing for another, we make sure that the transaction is (perceived to be) mutually beneficial. This prevents us from "casting pearls before swine" - giving someone something they don't appreciate as much as we ourselves or another person would. This benefit to the society - of avoiding waste - is possibly a stronger "evolutionary logic"[246] behind our "selfish" tendencies and inherent appeal to fair reciprocity than individual's wanting to prioritize their own survival and enjoyment over that of others in the same society. Human beings do not have good chances of survival alone or even in couples[247], and a tribe or other society is a far more relevant evolutionary unit than an individual.

A model of how empathy and a sense of contribution create value and how money could help us be *more* understanding and empathic of each other's needs - if it weren't for some sticky misunderstandings and emotional fixations regarding money - is explained in further detail in "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt". More on our emotional fixation with money in "5.1 Why We Don't See the Problems for What They Are" and the sister book "The Guilt Economy". On other problems with "planned" economies under "2.2.3.5 The Planned or 'Resource-Based' Economy - 'We Know What We Need'" and with increasing "economic democracy" under "2.2.3.7 Participatory Economics - 'Let's All Decide on Things Together'" and "6.3.2 Appendix 3.2 The Challenges with Democracy".

> "Basically we are clueless and hypocritical about ourselves. We're actually moderately accurate in our predictions of other people. Our blindness is about ourselves." – Jonathan Haidt[248]

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245 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability" and "1.2.3 Money as Credit - Real Wealth vs. Virtual/Fiduciary Wealth".

246 See: "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution" and "5.1.4 Institutional Interests - Rogue Agents without a Principal".

247 See: "1.1.1 The Division of Labor - Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

248 30:40->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

"Perhaps the idea behind capitalism is an inverse-iatrogenic effect, the unintended-but-not-so-unintended consequences: The system facilitates the conversion of selfish aims (or, to be correct, not necessarily benevolent ones) at the individual level into beneficial results for the collective." – Nassim Nicholas Taleb, Antifragile (2012, p. 114)

1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand

In short:

- *The function of prices in a market – the "exchange rates" between goods – is to bring the supplied and demanded quantities of specific goods and resources into balance – to ensure that services, products and other assets are produced in quantities that are used and worth the resources needed for their production.*
- *Similarly, the main function of wages and income differences is to encourage people to undertake activities and acquire skills that are in dire need – not so much to encourage people to work more or harder.*
- *The price mechanism does not always work in the desired way – but may even have adverse effects. E.g. paying for blood donations has been shown to reduce the donated amount.*
- *Most notably, the total supply and demand of labor are not balanced by automatic changes in the overall price level and wages: The market interest rate (the time price of money – the cost of credit) needs to keep these in balance. Falling prices rather raise the real interest rate, which further reduces aggregate demand.*
- *Many other market imperfections can also cause market failures.*

"Where your talents and the needs of the world cross lies your calling." – Aristotle

"All is connected ... no one thing can change by itself." – Paul Hawken, Natural Capitalism, Yoga Journal October 1994

"There's market making in everything. There was market making in Communist China, in the Soviet Union. There are markets in Cuba.

I don't know what people think when they talk about markets. If you can sell your goods for a better price over [t]here than over here, you go over there. That's what people do." – Jamie Dimon, Chairman and CEO of J.P. Morgan[249]

In addition to allowing us to understand each other's values better, trade also allows us to benefit from specialization with people with whom we are not at empathic terms.[250] Because the benefits of specialization and scale of production go well beyond a few hundred people, we wouldn't have gone very far without trade. A society of a hundred people might just be capable of developing all the skills to produce pencils, but hardly a paper machine – let alone develop the required production processes and technologies without prior models of such things.

Evidence suggests that the per capita productivity of a human society grows approximately 15 % when the size of the society doubles – or at least that is how most economic metrics of cities tend to evolve as they grow.[251] Some logics for this are benefits of scale in production and the added innovative capacity brought by an increasing number of ideas interacting.[252] It is hardly a coincidence that the development of most of our economic structures and institutions occurred simultaneously with industrial revolutions and mass urbanization.

In a market economy, the *market prices* of products and favors vary to make sure that products and services are produced in the right quantities taking into account (1) how much resources and effort they take to produce (i.e. what their production *cost* is) and (2) what their value is to potential users. Paying for goods, services and work is a way to transfer value from consumers to the producers to encourage them to produce more of them (or do more of the work or other desired kind of activity) than they would otherwise produce (or do). The function of wages – the price of work – in a society is *not* so much to encourage people to work *more* and *harder* as is commonly assumed by critics of capitalism. A lot of research into human motivation shows it can have the exact opposite effect (Deci & Ryan, 2008). Its function is much more to encourage people to *choose* to do the *types* of work that are most direly needed.

The most commonly used model of how the market price of a good is determined is the *law of supply and demand*. Supply is essentially the sum of the quantities of product each supplier in the economy would be willing to sell a different market prices of the product – i.e. *as a function of* prices. Demand, similarly, is the total *quantity* that th whole market would (be willing and able to[253]) buy as function of the product's market price, all other factor remaining unchanged.[254] [255] In a Walrasian auction, eac agent submits the quantities they are willing to suppl and demand (at all different prices) to one auctioneer, wh then sets a price at which the supplied and demande amounts are in equilibrium. For example, the openin prices at many stock exchanges are determined in similar way (Bossaerts 1999), but this idea is also used as simplification in models of other markets where in reali there is no auctioneer. The equilibrium price is rath achieved (in Léon Walras' view) through "tâtonnemen (French, roughly translates to "groping"): better pric are found iteratively, by raising prices when there undersupply and lowering them when there is oversuppl (Walker 1987)

Usually there is a common reference point for the mark value of other things available in a market – a unit which most market prices are expressed and for whic most things are first traded – a "currency" or "money Different types of currencies are discussed in section "1 Credit, Money and Banking". However, it is noteworth that no single currency or reference point is needed for the mechanisms of supply and demand to work. W can consider the supply and demand of any good comparison to any other good: for example, the supply an demand of cotton depending on its price – or "exchan rate" – in sugar. It is also noteworthy that the market pri is not an "absolute" or "objective value" of something, b just a figure – often calculated as an average – that emerg out of choices individuals make in the market.

As said, supply and demand are *functions* – not ones an zeros. This is exemplified by the expression wheth something is "worth it" or not: The choices we mal

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249 50:44->, "A Conversation with Jamie Dimon", interview, viewed 15.9.2013, http://www.youtube.com/watch?v=TU5P5ufZQdk

250 See: "1.1.1 The Division of Labor - Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

251 2011, "The Code", BBC Documentary, Episode 1: "The Code Breakers" http://www.bbc.co.uk/programmes/b00zs6sl

252 See: "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution".

253 "Needs are the basic human requirements for air, food, water, clo ing, and shelter. Needs become wants when they are directed to speci objects that might satisfy the needs. Wants are shaped by our socie Demands are wants for specific products backed by an ability to pay." – "Marketing - Kotler & Keller - Needs wants and demands", Quizl cited 12.4.2014, http://quizlet.com/11989306/marketing-kotler-kell flash-cards/

254 "Demand", definition, Investopedia, cited 12.4.2014, http://ww investopedia.com/terms/d/demand.asp

255 In this sense, it is a bit misleading that price tends to be portraye on the vertical axis in supply and demand diagrams, as in mathematic variables are usually on the horizontal axis, e.g. in f(x)=x. Of course, w can also consider the market price to be a function of the quantity tra ed, but that is less intuitive, as an individual can say how many units something he'd be willing to buy at a given price and these quantities different consumers can be summed up into a demand curve, while yo cannot sum up the prices people are willing to pay for different quant ties to get a demand curve.

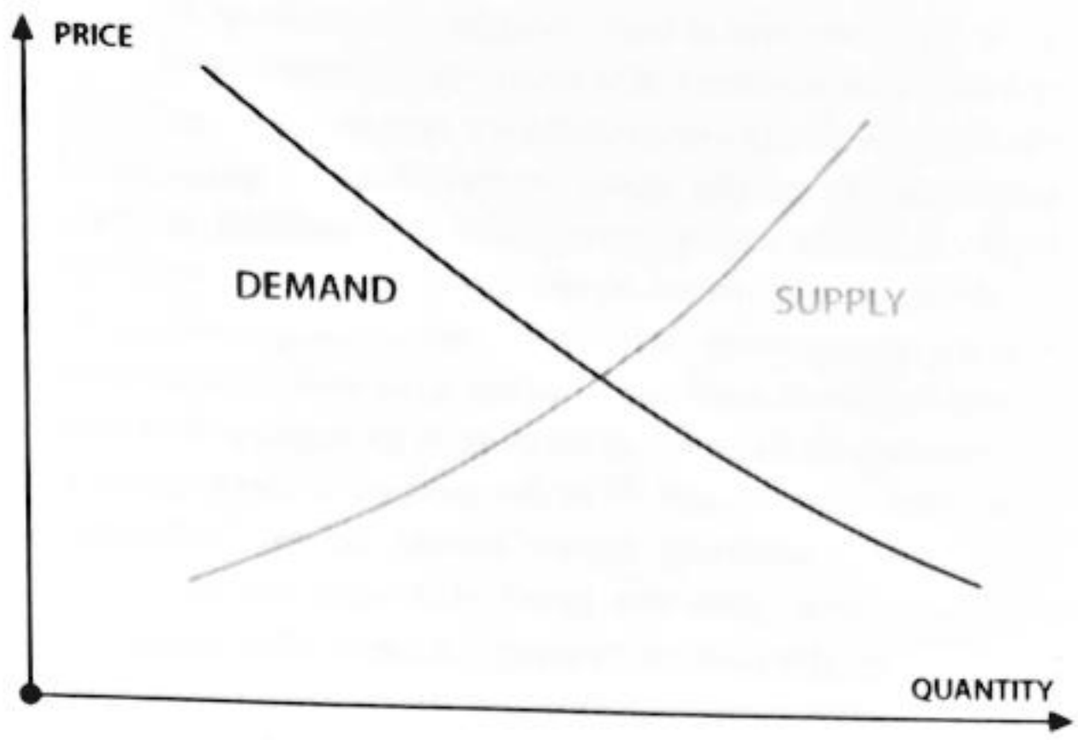
between alternatives are affected by the relative perceived values[256] of the alternatives and resulting costs or losses. This is why a computer program could never allocate resources optimally or fairly based on a survey – it has no way of really knowing how much we value things.[257]

The price at which the *supplied quantity* equals the *demanded quantity* is the *equilibrium price*. A working market should tend toward this equilibrium point. This is simply because not being able to sell goods causes producers to either lower their prices or to produce less, while not being able to buy a desired good makes clients ready to pay more for it or decide to try to get by with less of the good in question (e.g. by substituting it for another).

The "quantity" usually means the *traded* – sold and bought – quantity. As services and most consumer goods are only produced for sale, it is often equivalent to the *produced* quantity. In the case of production goods and durable assets like real estate, the "supplied quantity" can also mean the *existing quantity* and the demanded quantity the quantity that agents wish to own. This for example makes the concept of "the supply of money" easily very confusing[258] and makes it important to specify whether the "demand for housing" is demand for owning residential real estate, for buying real estate or for the accommodation services that the real estate provides.[259]

Products and services have different prices and jobs have different wages[260] so that people and companies are encouraged to rather produce things and do work that are needed instead of the things that they'd most prefer to do. But the market price is by no means a measure of the full *value* of a product, and wages are by no means a measure of the full value of the work.[261] Money should by no means be a definition of value.[262] [263]

If people automatically preferred to do the things others need in just the right quantities, we'd need no trading, money or other economic accounting system at all. Everything could be done on a hobby basis for the fun of doing it and the pleasure of being able to contribute[264]



GRAPH 2: SUPPLY AND DEMAND CURVES DETERMINING THE MARKET PRICE AND PRODUCED/TRADED QUANTITY.

– and this would be the most productive way of doing things, without paying anyone for anything at all. This is the idea in communism – as well as its modern rebrandings including the Zeitgeist Movement.[265] Unfortunately, supplied and demanded quantities seldom match without trade and prices. Payment can be seen as a way to encourage others to do more of the things that one values (i.e. considers worth doing), by transferring some of that produced value back to the producer, which results in production and consumption where all the participants win (more).

For example, if I had the completely unaffected choice, I might spend my days composing, singing and playing music, dancing, acting, doing sports as well as philosophizing with friends. However, I also enjoy solving business problems and because companies are willing to pay me for it, I can choose to spend some of my time doing that so that I can buy food, accommodation and better equipment for all the other hobbies I enjoy slightly more. As a result, all parties benefit.

If everyone would do whatever they preferred most regardless of how much these activities produce value to others and how many other people want to and are able to do those things, we'd very likely have an oversupply of guitar players, singers, catwalk models and professional soccer players. In a market economy, we gain more economic freedom in the form of credit – the right to consume the value other people produce – by choosing to do things of which there is most scarcity – high demand and low supply. This encourages each and every one of us to develop our skills and technologies (production methods) further.

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256 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

257 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".

258 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous", especially footnote 654.

259 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

260 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

261 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

262 See: "The Guilt Economy".

263 An example of very valuable work that does not need to be paid for is parenting. And if someone insisted that sexual intercourse is only valuable when it is paid for, the author would have to disagree.

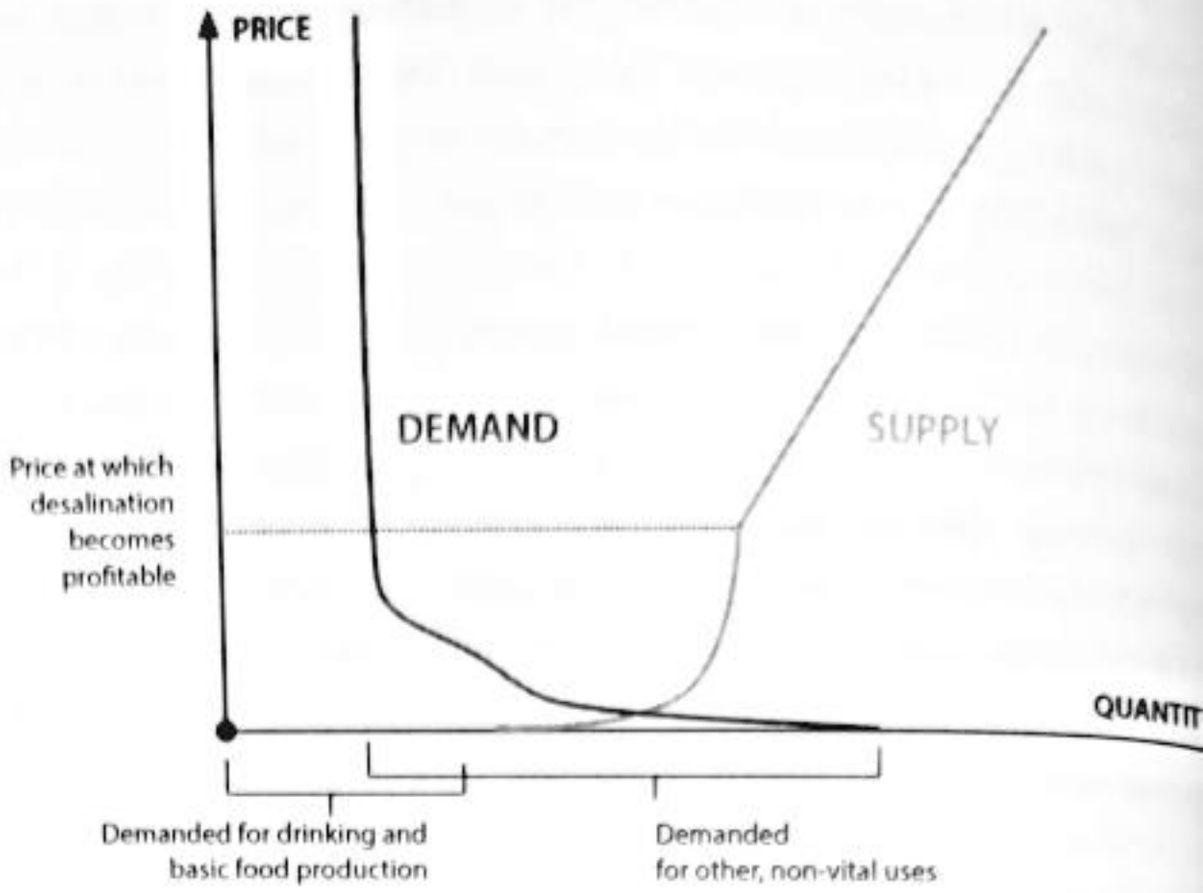
264 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt"

265 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".

If an external restriction changes the price of a good in a market to something else than supply and demand would determine, it almost inevitably results in oversupply or undersupply of the good in question. A price too high tends to cause excess production of the good. In the case of work, a minimum wage leads to oversupply of the given type of work, which, in the current system, means unemployment, and some other means of discrimination is required to determine who gets to supply that kind of labor and who doesn't.[266] In the case of undersupply, some other discriminating factor needs to be implemented to decide who gets the good and who doesn't. As an example, in the case of research grants, this could be the ability to write applications. In many other cases it can become for example the effort a person is ready to put in to queuing for the product (e.g. rent-controlled housing). Because queuing has a cost, queues are very often a signal of something being priced below its "natural" market price. For the buyer, queuing could be seen as part of the price and can serve to balance the demanded quantity with the available quantity, but it produces little more for the producers[267] and does not encourage increased production. It is ultimately an additional transaction cost.

When the demanded (or supplied) quantity of a good doesn't change much with the change of its market price, we say that the *price elasticity* of the demand (or supply) is low. These kinds of resources still follow the same laws of supply and demand (unless both the price elasticity of both supply and demand is zero), and setting legal restrictions on their price causes supply and demand imbalances.[268] Price inelasticity of demand practically means that the demand curve is close to vertical. Goods with low demand elasticity include some vital resources with no other uses. For example, in a situation where people had to pay for oxygen, their ability to control their use of oxygen would be limited to how much they control their physical activity and reducing activities involving combustion (such as cooking food). People would however be ready to pay whatever they could earn to buy the minimum amount of oxygen they need for survival, which makes the price elasticity of the demand for oxygen almost zero below this point.

Note that "demand", does not mean the theoretical value people would want to pay for something, but what they, in practice, also *can* pay for something: "need backed with purchasing power". If a vital resource like oxygen became scarce, the rise of its price would (only) be limited by people's ability to earn income. Therefore, the line would not be completely vertical, as the less productive



GRAPH 3: EXTREMELY INELASTIC DEMAND (NEAR ZERO PRICE ELASTICITY) BELOW A QUANTITY (E.G. FRESH WATE

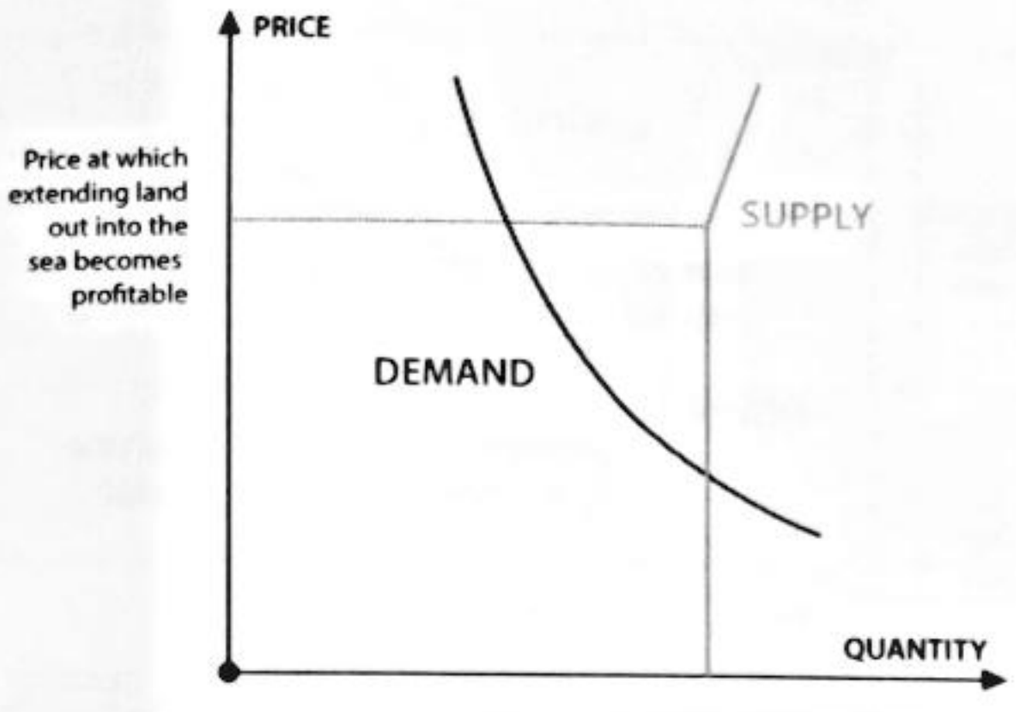
(and those whose skills are not in high demand or ar abundant in supply) would simply suffocate when th price surpasses what they are able to earn minus othe vital living expenses. Fresh water could be anothe example close to this.

Graph 3 presents a rough, fictive sketch of a fresh wate market.

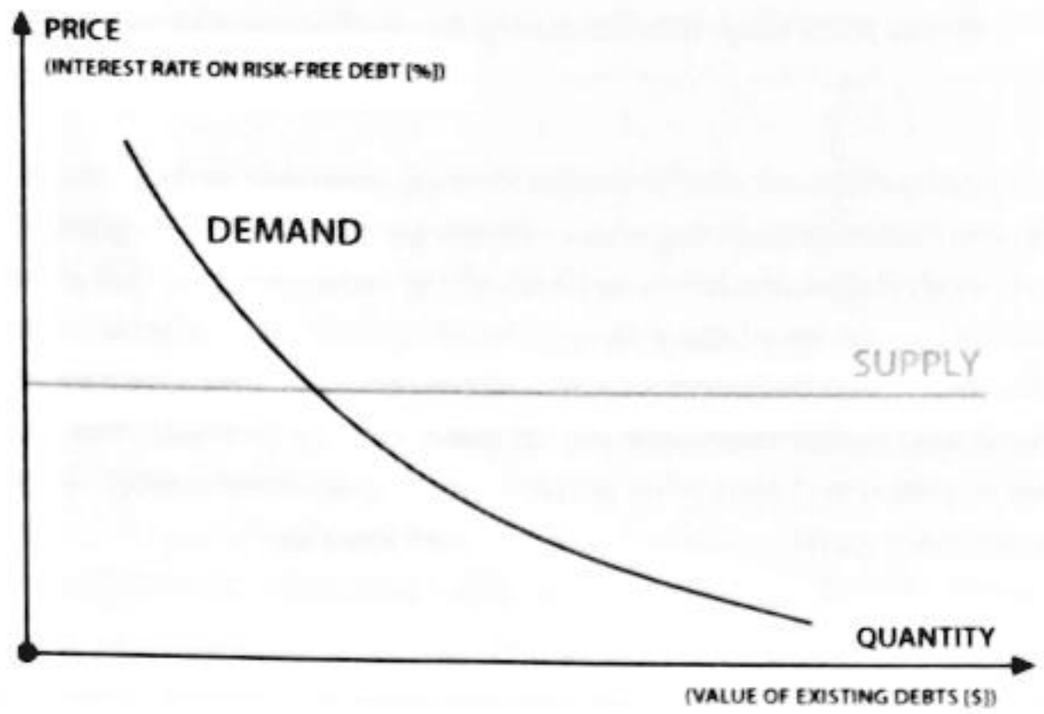
Also the price elasticity of supply can be close to zero which is the case with limited, non-producible resources For example the global supply of land is a very expensive thing to increase. Similarly, the supply of land available for construction within a limited municipality can be considered price-inelastic unless city planning (especially new zoning)[269] is directly affected by the market prices of land. Even without restrictive zoning, the land on an island city is very difficult to increase, as roughly demonstrated in Graph 4.

It is noteworthy that, although the total quantity of e.g. fossil fuels available on Earth is limited, their extracted amount into usable form is not. The amount of work required to extract different reserves out of the ground into the market varies significantly, and therefore their (expected future) market prices affect how much is harvested and refined for human use. As the prices rise, more remote and inaccessible reserves become profitable to harvest. It also becomes profitable to invest in new extraction technologies (like "fracking", deep sea drilling, drilling through ice sheets etc. [270]), and such a new technology applied with benefits of scale can suddenly

266 See: "2.2.3.3 Wage Regulation by the Government – All or Nothing".
267 One exception might include the "status queues" held by night clubs to attract more customers, but these do not increase supply either, but are in fact created by "restricting supply."
268 ...with the theoretical exception of the price elasticity of both supply and demand being zero (two overlapping vertical lines in the graph).
269 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".
270 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".



GRAPH 4: EXTREMELY INELASTIC SUPPLY (ZERO PRICE ELASTICITY) AFTER A POINT: E.G. LAND ON AN ISLAND CITY.



GRAPH 5: INFINITELY ELASTIC SUPPLY (E.G. BANK LOANS FOR HIGHLY CREDITWORTHY CLIENTS).

bring many previously inaccessible or unprofitable reserves into the market.

Price elasticity of demand can also theoretically be close to infinite. This is the case when people are only willing to pay or ask one price for a good within a range of supplied or demanded quantities. Practical cases of consumption goods with infinite price elasticity of demand (where people would only be willing to pay one price for a good, but buy as much as there is at that price) are hard to think of, but if we'd consider cash notes as assets, we could say that the price elasticity of newly issued notes is infinite (up to a point). (Banknotes cannot be considered "goods", as they are essentially accounting tools for credit,[271] but also the prices of *financial assets* can be analyzed in terms of supply and demand.)

However, it is very noteworthy (pun intended) that the *supply* of risk-free credit (what is often meant by the "supply of money") in our current credit money system is practically infinitely interest-rate-elastic. This credit money system will be explained in "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and the infinite price elasticity of supply in "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

Another interesting phenomenon that doesn't seem to follow the laws of supply and demand is that higher prices can sometimes make some things more valuable and tempting – increase their perceived value. When this herd behavior is just speculation on future functional use value or exchange value, it results in bubbles that eventually burst and punish the speculators. But a higher price can also lead to a permanent increase in the *symbolic value* of the product: Owning and consuming expensive goods can for example be a symbolic signal of wealth and thus serve as evidence of belonging to a social group or of having a higher status within that group – or just be considered evidence of higher quality of the good (such as durability, functional effectiveness, convenience of use etc.). Goods like luxury goods, which are made more attractive by higher price, are called Veblen goods. [272]

In addition to the fact that people appreciate things more if they have to work hard for them, a high market price is easily seen as a signal of others valuing something highly. The knowledge of others' opinions affects people's opinions strongly, and this is one explaining factor in e.g. the high unpredictability of success in the entertainment industry, "self-fulfilling prophecies" (Salganic, Dodds & Watts 2006-1; Salganic, Dodds & Watts 2006-2) and many forms of the "Matthew effect".[273] [274] Even human attraction and thus the "relationship market" has been shown to be strongly influenced by the law of "preselection", as it is called in "life coaching" and the "pick-up artist industry":

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271 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "Sidenote Box 125A: The Currency, the Accounting System and the Payment Interface – What We Mean by 'Types of Money'".

272 "Veblen good", entry, Moneyterms.co.uk, cited 22.7.2013, http://moneyterms.co.uk/veblen-good/

273 "For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken even that which he hath." – Matt. 25:29, The Bible, King James Version.

274 One intriguing modern phenomenon related to this pre-selection mindset of people is the emergence of services where people and companies can buy social media followers and e.g. YouTube views and likes to make themselves look popular and thereby attract actual followers and gain positive brand associations – Considine, Austine, "Twitter Followers for sale", New York Times, 22nd Aug 2012, 6.6.2013, http://www.nytimes.com/2012/08/23/fashion/twitter-followers-for-sale.html?_r=0

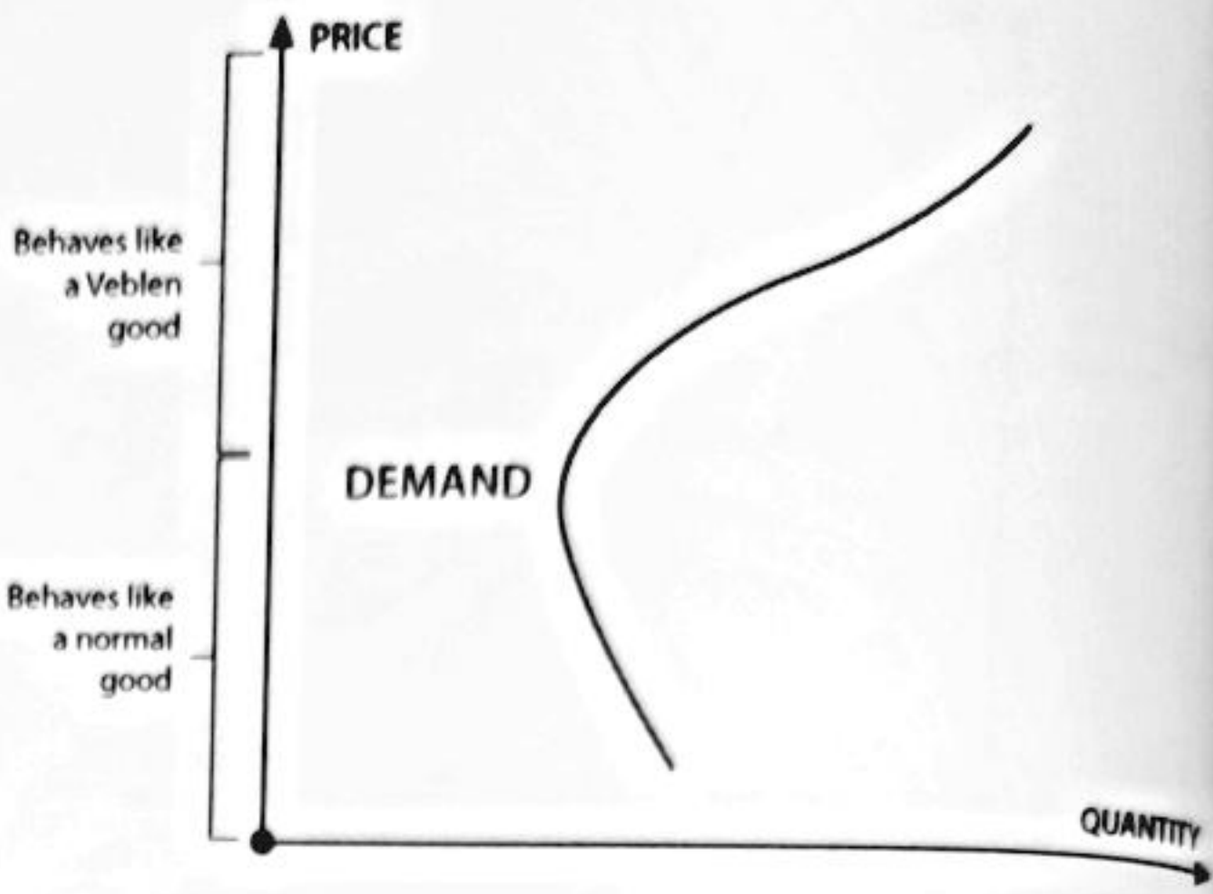
People want what (and whom) they think others want.[275] [276]

Higher price can help make things trendy "fads" or even institutionalize things as more permanent symbols of value and status. It's worth reading into the way De Beers (with the help of the N. W. Ayer advertising agency and the diamond deficit it sustained with its de facto monopoly position) institutionalized diamonds as something rare and valuable, and the diamond engagement ring as an unsubstitutable symbol of love and loyalty.[277]

Such effects could be interpreted as the long-term price elasticity of the demand of the product being negative – especially at higher prices (see: Graph 6) – but usually supply and demand curves are applied to *ceteris paribus* ("all other things being equal or held constant") short-term changes. Therefore, the other way to see this is that the increased perceived value caused by the price increases results in the demand curve shifting "to the right". This is a more descriptive way of seeing it, as symbolic value is quite sticky: Lowered prices might not erode the perceived value immediately. For example, although Finland's high taxation of alcoholic drinks and a history of prohibition probably have contributed to the perversely high symbolic value Finns attribute to alcohol,[278] falling alcohol prices are still likely to increase consumption – at least when the drop is expected to be temporary.

In investment goods, there is the "bandwagon effect" of a rising price increasing demand, as people expect their value to keep on rising. This is a major cause of asset bubbles.[279] Such bubbles can be quite persistent in assets with very limited price elasticity of supply, such as land, precious metals and other natural resources.

On the other hand, the consumption of some very cheap products can increase as their price rises – without any change in the nature or perception of the good itself. Such goods are referred to as "Giffen goods" [280] – or such consumption behavior as "Giffen behavior". This can happen when the rising real prices of the good (typically e.g. inferior quality staple foods) causes the purchasing power of the consumer to drop so that they start



GRAPH 6: THE DEMAND CURVE OF A HYPOTHETICAL VEBLEN GOOD.

substituting more expensive alternatives (e.g. meat) for the (still) cheaper good. Here, the "income effect" of the rising price surpasses its "substitution effect".

According to the "income effect" – i.e. the consumption of the good as a function of the consumers' income – goods can be categorized into "inferior goods" (elasticity < 0) and "normal goods" (elasticity > 0) and the latter further *into* "necessary goods" (elasticity < 1) and "luxury/superior goods" (elasticity > 1). A Giffen good is an "extreme" kind of inferior good, in that the rise in its price alone is enough to drop many people's real income sufficiently to raise consumption of the good in question. Giffen goods often form a notable portion of a person's income (e.g. staple foods in an underdeveloped economy) and lack easy substitutes.

In supply, increased production quantities often result in the price of the good decreasing in the long run, as *economies of scale*[281] [282] lower unit production costs and the benefits from this increased productivity are transferred eventually to market prices as a result of competition. We can conclude that it is important to make clear what time scale we are talking about when we talk about price elasticity.

General equilibrium theory proposes that, in any given condition, a set of prices exists in which the supplied and demanded quantities of all products are in equilibrium. However, certain assumptions related to the supply and demand curves and market mechanism need to apply for the equilibrium state to exist and/or for it to be "efficient".

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275 Amante, Chase, "How Preselection can get you girls", Girls Chase, 4th Oct 2012, cited 28.6.2013, https://www.girlschase.com/content/how-preselection-can-get-you-girls

276 "Include women in your life: Preselection and Attraction", Blusher Seduction, cited 28.6.2013, http://www.blusherseduction.com/about-blusher-seduction/

277 Epstein, Edward Jay, "Have you ever tried to sell a diamond", The Atlantic, 1st Feb 1982, http://www.theatlantic.com/magazine/archive/1982/02/have-you-ever-tried-to-sell-a-diamond/304575/

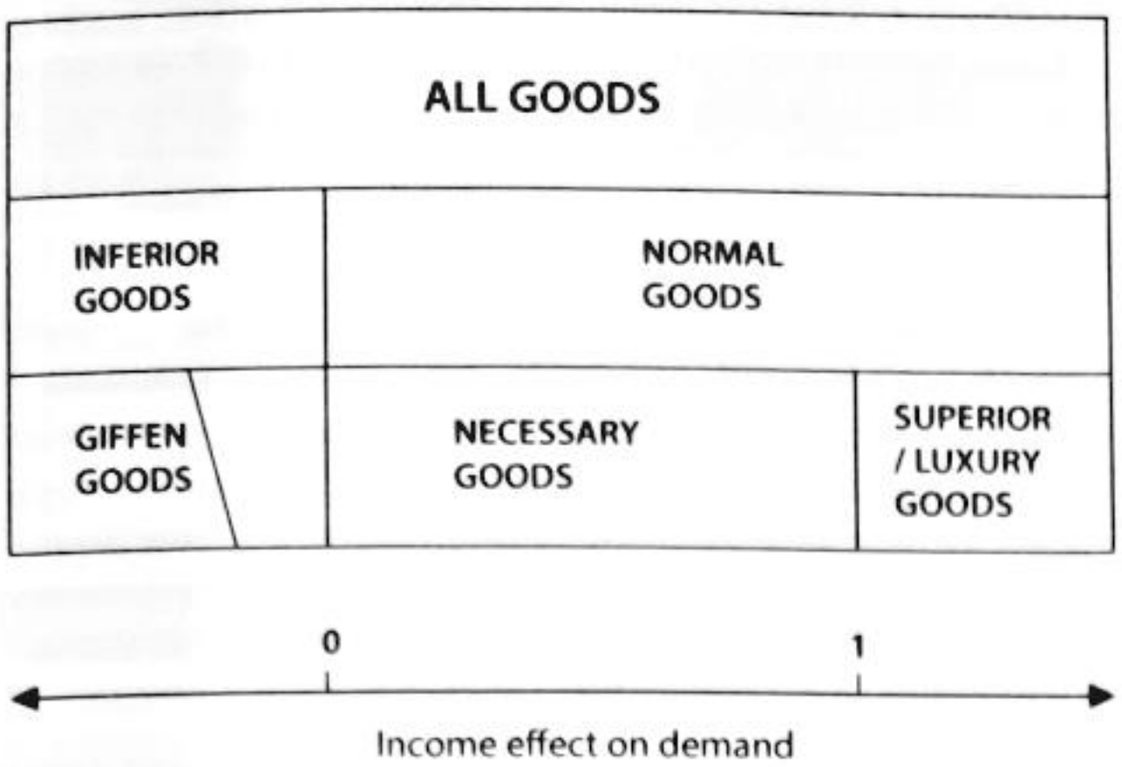
278 More on the symbolic value of products under "6.1.2 Appendix 1.2: Different Types of Value Products Provide".

279 For the difference between "diamond bubbles" and "tulip bubbles", see: "4.3.1.6 Case: Helsinki Metropolitan Region".

280 "Giffen good", entry, Moneyterms.co.uk, cited 22.7.2013, http://moneyterms.co.uk/giffen-good/

281 Economies of scale – added efficiency due to being able to produce a bigger quantity – include lower overhead costs (which are often fixed) per unit and higher incentive to invest in developing more efficient production technologies and processes.

282 "Economies of scale", definition, Investopedia, cited 15.9.2013, http://www.investopedia.com/terms/e/economiesofscale.asp



GRAPH 7: CLASSIFICATION OF GOODS ACCORDING TO THE INCOME EFFECT OF PRICE ON THEIR CONSUMPTION.

In reality, there are constant price fluctuations and market imperfections that cause mismatches. For example Austrian economists (for good reason) reject the existence of any equilibrium states and contend merely that market mechanisms tend to nudge the allocation of resources in the "equilibrative direction".

> "In a world of ceaselessly changing tastes, resource availabilities, and known technological possibilities, this entrepreneurial process cannot guarantee rapid (or slow) convergence to a state of equilibrium. But it does at each moment guarantee profit-incentives tending to nudge the market in what, from the perspective of that moment, must be recognized as the equilibrative direction." (Kirzner 2000 p. 6)

Some, like the followers of Ludwig Lachmann (Kirzner 2000, p. 27-28), reject this assumption or even the whole idea of any "equilibrium state" and "equilibrative forces".

One important practical implication of the general equilibrium theory, though, is that the demand (and supply) curves of individual products are highly dependent on those of others. A lot of the price elasticities of demand and supply result from *substitution effects*: consumers and producers switching to other goods or services when relative prices change. Therefore, even *ceteris paribus* comparisons in the context of supply and demand (which are often done in microeconomics) practically mean only that other "*external* factors" – like people's value functions (i.e. preferences) and costs of production – remain constant. In microeconomic analyses, the reactions of the prices (and traded quantities) of other goods to the proposed shift are usually included in the demand and supply curves of the good being discussed. And of course in reality, these full systemic effects are impossible to know precisely beforehand. The model of supply and demand curves, therefore, does not allow any accurate predictions.

For example, the price elasticity of rye bread might be strongly influenced by how feasible a substitute oat bread provides. If the price of oat bread rises significantly, this might decrease the price elasticity of the demand of rye bread, as a major substitute becomes less lucrative. Because also the price changes of rye bread affect the price of oat bread and the demands for both of these affect the demand for – and possibly also supply of – other products, their dynamic demand will not follow the curves drawn with the assumption of all other spending remaining constant. Even if a set of equilibrium prices in a situation were to exist, a change in one agent's preferences between two goods or relative willingness to provide two services can cause all prices to be different in the new equilibrium state.

Accepting that an actual, static state of equilibrium rarely exists, *Walras's Law* says that "the sum of the values of excess demands across all markets must equal zero, whether or not the economy is in a general equilibrium"[283] (Lange 1942), i.e. that an excessive demand of one thing must mean a matching excessive supply of something else. This applies as long as

- we cannot trade for future goods, or
- we are only trading in goods that have the same value in the present and in the future for all participants, or
- we consider goods supplied in the future different goods than identical ones supplied today.

And this is quite easy to show mathematically. If the prices of goods are always expressed as exchange rates with other existing goods, an excessive amount demanded of e.g. rice means that other goods (with which rice is traded) are supplied excessively for rice with that exchange rate. Both disequilibriums are solved by lowering the prices of other things in rice, i.e. making rice more expensive.

The pitfall of this theory is that (as said) for most transactions we usually use "a medium of exchange" or other way of keeping account of credits[284] (what people owe each other), which allows us to sell something now and buy something else (or even the same good) back later by holding on to the "medium" or credit until then.

As the production cost of most goods can be reduced to the cost of the needed labor and capital,[285] the result of the use

283 "Walras' Law", definition, Investopedia, cited 21.10.2013, http://www.investopedia.com/terms/w/walras-law.asp

284 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability" and "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

285 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Produc-

of any kind of money is that the *momentary supplied amount of labor can exceed its demanded amount*: People can be more willing to supply labor now than they are currently willing to buy labor from others through products, services, and investment goods. In other words, they can, in net, desire to save money or acquire more credit on others. This can occur when people value future goods and free time more than they value current goods and free time and when few productive real investment options are available. Walras's Law (just like e.g. Marx's theory of capital[286]) ignores the *time value* of goods. Therefore, Walras's Law only applies if we consider current and future products to be different products.[287] For Walras's Law to apply to *current* products, services and types of labor, the (real) *market interest rate* – i.e. "the time price of labor" or the cost of risk-free capital – needs to bring present aggregate supply and demand into balance.[288]

Many schools of economics – most notably the Austrian school – like to consider money a commodity almost like any other and persistently subscribe to versions of *Say's Law*, insisting that overall supply cannot exceed overall demand.[289] Unfortunately, the interest rate mechanism does not work very well with a commodity money of limited supply, and the value of such money inevitably becomes a kind of very unstable speculative bubb causing harmful fluctuations in the supply and demand other goods and resources, as will be explained in "2. Market-Dictated, 'Sound' Commodity Money – Austri perspectives".

Theoretically, a market economy of supply and dema should tend towards more efficient outcomes. A *mar failure* refers to a situation where the outcome of trade not "Pareto optimal" or "Pareto efficient" (Barr 2012, 43-46; Ledyard 2008): a situation where a better res could've been achieved for at least one agent witho making anyone else worse off. Some imperfections t might result in market failures include:

- Non-competitive markets, which may result fr e.g. high entry barriers or high differentiation products.
- Other situations where one agent can influer prices significantly.
- Externalities: Costs and benefits resulting to part not taking part in making a decision. These mig encourage transactions that cause more total co than create value.[290]
- Non-excludability and other property righ issues:[291] E.g. limits to how much value the produc can capture from producing the product can resu in underinvestment. This is closely related positive (and negative) externality effects.
- Agency problems including moral hazards a conflicts of interest where an agent does not ha the full incentive to look after the benefit of h principal.[292]
- Time delays: E.g. it might take time for supply match increased demand due to the time it takes build additional production capacity (or labor to b re-educated or moved geographically). This is wh it is important to specify what time scale a supp and demand model assesses.
- Asymmetric information: not all parties hav similar expectations of outcomes.
- Bounded rationality (Jones 1999) is also ofte thought of as a cause of market failure. This ca be partly overcome by including the costs o acquiring information in the model and adjustin the "utility functions" in the model to include mor of the different emotional factors that affect th

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tion"

286 See: "Sidenote Box 118C: Marx's 'Capital' Is Closer to Financial Capital".

287 ...unless we consider people to give absolute value to money itself without an intent to spend it in the future either, see: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them."

288 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production", "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

289 Ludwig von Mises is one example:

"The Keynesians tell us that his immortal achievement consists in the entire refutation of what has come to be known as Say's Law of Markets. The rejection of this law, they declare, is the gist of all Keynes's teachings; all other propositions of his doctrine follow with logical necessity from this fundamental insight and must collapse if the futility of his attack on Say's Law can be demonstrated." ...

"With regard to economic goods there can never be *absolute* overproduction." ... "...there can be only *relative* overproduction." ...

"Money is merely the commonly used medium of exchange; it plays only an intermediary role. What the seller wants ultimately to receive in exchange for the commodities sold is other commodities." ...

"Say emerged victoriously from his polemics with Malthus and Sismondi. He proved his case, while his adversaries could not prove theirs." (Mises 1952, p. 64-67)

Unfortunately Say's assumption is refuted by Mises himself...

"It must be recognized that from the economic point of view there is no such thing as money being idle." ... "What is called storing money is a way of using wealth." (Mises 1912, p. 147)

...and his disciple Rothbard:

"Money is only useful for exchange value, true, *but it is not only useful at the actual moment of exchange.*" ... "Money is just as useful when lying 'idle' in somebody's cash balance, even in a miser's 'hoard.' For that money is being held now in wait for possible future exchange – it supplies to its owner, right now, the usefulness of permitting exchanges at any time – present or future – the owner might desire." (Rothbard 1963, p. 32)

More on this in "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth". Ludwig von Mises also assumes that people's time preference cannot be negative (see: "1.1.8 Labor and Capital (and Land?) – The Factors of Production"), which is quite easy to refute.

290 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' - Externalities and the Limitedness of Land".

291 See: "1.1.7 Ownership as a Bundle of Rights".

292 See: "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power", "3.2.3 Unionization and Strikes" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".

value agents attribute to different goods. However, removing the assumption of "intended rationality", allows situations where changes in prices – and expected changes in prices have very unexpected effects on demanded and supplied quantities.[293]

Such failures are often used when arguing for government intervention in a market – as is done in this book, focusing mainly on non-competitive markets (monopoly industries and resources)[294] and externality costs. As a rash simplification, we could say that free competition works especially badly in situations where the price elasticity of supply is close to zero: where rising prices fail to increase the supplied amount, especially:

- in the case of untaxed land ownership,[295]
- for types of labor with limited supply e.g. due to education restrictions[296] and
- in natural monopoly industries, such as major infrastructure.[297]

or where lowering prices (due to reduced demand) fail to decrease the supplied amount, e.g.:

- a structurally inflexible (i.e. low-mobility) labor market with limited education opportunities[298] and
- the market of total labor when a deflationary, limited quantity type of money is used, in which case the interest rate mechanism easily fails to keep current aggregate supply and demand in balance.[299]

Markets almost never function "perfectly", but that is no reason to reject markets. The question is whether a market mechanism can achieve the objectives we set for an economic system better than other possible ways of arranging production or the allocation of resources. These normative objectives can of course vary significantly.[300] Often we are asking whether a market can be self-stabilizing, result in efficient outcomes and adjust to shocks robustly – or possibly even in an antifragile way, gaining from them (Taleb 2012). In addition to the outcome, one relevant question we could ask is whether operating in a market can be a motivating "game" for the participants.[301]

Markets do not require perfect information to work. On the contrary, as explained in "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'", the inevitably distributed nature and *imperfection* (including asymmetry) of information about people's preferences is one of the strongest arguments *for* letting markets allocate resources wherever they have a chance of working fairly and efficiently.

> "The daring, alert entrepreneur discovers these earlier errors, buys where prices are 'too low' and sells where prices are 'too high.' In this way low prices are nudged higher, high prices are nudged lower; price discrepancies are narrowed in the equilibrative direction. Shortages are filled, surpluses are whittled away; quantity gaps tend to be eliminated in the equilibrative direction. In a world of ceaselessly changing tastes, resource availabilities, and known technological possibilities, this entrepreneurial process cannot guarantee rapid (or slow) convergence to a state of equilibrium. But it does at each moment guarantee profit-incentives tending to nudge the market in what, from the perspective of that moment, must be recognized as the equilibrative direction." – Israel M. Kirzner, The Driving Force of the Market: Essays on Austrian Economics (2000, p. 16)

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293 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".
294 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".
295 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
296 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".
297 See: "4.3.4 Making Natural Monopoly Industries".
298 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
299 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
300 See: "2.1 Normative Principles – What Do We Want from an Economic System?".
301 See: "2.1.6 Conclusions – How about a Game Design Approach?".

1.1.7 Ownership as a Bundle of Rights

In short:

- *"Ownership" is essentially a bundle of rights regarding an entity. What kinds of rights are included (and under what conditions) in "ownership" can vary significantly between countries and different objects of ownership.*
- *Especially "land ownership" – which is more like ownership of space and location – and intellectual property are challenging issues practically, legally and ethically.*

> "A market is an institution in which individuals or firms exchange not just commodities, but the rights to use them in particular ways for particular amounts of time." – Hugh Gravelle & Ray Rees, Microeconomics (2004)

> "Liking is probably the best form of ownership, and ownership the worst form of liking." – José Saramago, The Tale of the Unknown Island

Previously we explained why we need trade to balance supply and demand of different kinds of favors and products. But what exactly does it mean to "trade", or to "sell" or "give" an asset to someone? Often this involves physically handing over the item, but "handing something over" does not always imply a change in "ownership" and sometimes a change in ownership – e.g. when buying a house or resources stored in a warehouse – does not involve physically moving anything. So what defines this "social relation" called ownership?

In many of our languages, the conceptual metaphor for ownership is location,[302] [303] but legally or in practical terms, location has little do with whose property something is.

> "A market is an institution in which individuals or firms exchange not just commodities, but the rights to use them in particular ways for particular amou of time." ... "Markets are institutions which organ the exchange of control of commodities, where nature of the control is defined by the property rig attached to the commodities." (Gravelle & Rees 20 p. 314)

From a practical point of view, emphasizing effects the functioning of a society and on facilitating hum cooperation, a useful framework for understand ownership is seeing it as "a bundle of rights" (Klein Robinson 2011). Tony Honoré (1987) distinguishes betwe the following types of rights:

1) the right to possess
2) the right to use
3) the right to manage
4) the right to the income of the thing
5) the right to the capital
6) the right to security
7) the right of transmissability
8) the right of absence of term
9) the duty to prevent harm
10) liability to execution and
11) the incident of residuarity

Some alternative classifications are:

- the right of possession – the property is owned whomever holds title;
- the right of control – within the laws, the own controls the use of the property;
- the right of exclusion – others can be excluded fro using or entering the property;
- the right of enjoyment – the owner can enjoy t use of the property in any legal manner; and
- the right of disposition – the title holder can se rent or transfer ownership or use of the property will[304]

and

- the right to use the good
- the right to earn income from the good
- the right to transfer the good to others
- the right to enforcement of property rights.

What can be owned and what not – and what ownership really means in each case – is not always as clear as one might expect. Especially the question of intellectual property rights (IPR) – owning ideas, methods, sets of encoded information etc. – is a hot subject of both philosophical, sociological and legal debate. Although the

302 In the Finnish language, this metaphor is especially strong. The word-by-word translation for the Finnish expression "A has B" ("A:lla on B") would be "B is at A".

303 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

304 "Bundle of Rights", About.com, cited 19.2013, http://realestate.about.com/od/ownershipandrights/f/bundle_of_right.htm

entirety of this debate is not the main subject of this book, we present some fresh ideas for improving IPR markets in "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies" and touch on the issue in "3.3.3 Continuing Rampage of Curable Diseases". Instead, the economic trouble with the full, private ownership of limited or irreplaceable natural resources is at the core of why our current economies are not working efficiently and fairly.[305]

A relevant question in terms of trade is why the "ownership" of "property" composed of these kinds of rights has value to the owner. And the most obvious answer is that it gives her expected future benefits[306] or secured opportunities she wouldn't have otherwise. Some one could call these opportunities "positive freedom" – another person could call them "power".

These opportunities can have value even if they would never be concretely utilized: If the *possibility* of utilizing them gives the person additional opportunities, e.g. a sense of security or negotiation power ("leverage"), which is the case with for example having weapons, which increase the cost of attacking you. In this way, they can grant security and power even if you never used them.[307]

305 See: "4.3 Eliminating Private Monopolies and (Other) Privileges" and the subchapters of "3.4 Environmental Sustainability".
306 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
307 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?".

Sidenote Box 117A: Ownership as an Idea, Feeling, Relationship or Extension of the Self?

"After all, we experience money (and property) as an extension of our selves; hence the possessive pronoun 'mine' to describe it, the same pronoun we use to identify our arms and heads." … "…which is why we feel 'ripped off' when [money] is taken from us. Money, then, violates not only the natural law of return, but the spiritual law of impermanence." – Charles Eisenstein, Sacred Economics (2011)

"Funny thing how it is. If a man owns a little property, that property is him, it's part of him, and it's like him. If he owns property only so he can walk on it and handle it and be sad when it isn't doing well, and feel fine when the rain falls on it, that property is him, and some way he's bigger because he owns it. Even if he isn't successful he's big with his property. That is so.

But let a man get property he doesn't see, or can't take time to get his fingers in, or can't be there to walk on it – why, then the property is the man. He can't do what he wants, he can't think what he wants. The property is the man, stronger than he is. And he is small, not big. Only his possessions are big – and he's the servant of his property. That is so, too." – John Steinbeck, The Grapes of Wrath

The interesting implication of the previous definition (of ownership as composed of rights and expectations) is that ownership should have little value or practical implications if it does not provide any additional opportunities or if the owner has no intention of utilizing these opportunities or taking them into consideration. Still the plain idea of "owning" something – especially something big or beautiful – is somehow satisfying to many of us. But couldn't you get the same feeling just by *imagining* owning e.g. a castle?

Continued on page **68** ►

Ownership, possession, having something or "calling something one's own" is also a feeling – a feeling combining a sense of achievement, progress and control. And these feelings can be an essential part of human happiness (or unhappiness), as is explained in more detail in "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness". Interesting perspectives into these feelings can be seen in the metaphorical use of the word, such as an actor "owning the stage" or (in a more recently emerged use) "owning" in a game, with both the game itself and other players used as the transitive object (e.g.: "I owned that match."; "You got owned big time."). It is therefore understandable that many prefer to see ownership as a deeper, philosophical, special type of relationship between two entities.

Surely, ownership (or possession) is a very emotional and ethical issue, in addition to being a legal and societal concept of rights and expectations of others' behavior. But we could take it further into an ontological question: Are our limbs and physical bodies really "a part of" ourselves or are they things that we "own" or "possess"? The fact that an organ transplant is *not* seen as "fusing a part of someone else into another person",but rather "receiving an organ" suggests that this is how many of us see it. The concept of competences as "human capital"[308] – assets a person (or even his employer) possesses – suggests that our "possessions" are not limited to our physical embodiments. Could we say that we *are* our possessions? And if so, does this imply that buying or otherwise receiving ownership of things is merging these objects (and ideas) into oneself? Consumer researcher Russell Belk (1988) suggests that, through a process of "cathexis" – investment of mental or emotional energy in a person, object or idea – we become to think about and feel our possessions to be a part of our "extended self".

The different meanings of the word "belong" reflect this line of thinking. If a hat belongs to you, it implies it being your *property*, but if you "belong" to a group it implies that you are a *part* of the group – not its property or its "belonging". And the word "property" can refer both to a "possession" or a "characteristic"/"trait". Such polysemous words (i.e. words with multiple meanings) can also be found in other languages.[309] In a role-playing game, developing your character through acquisition of skills does not differ significantly from doing so through the acquisition of artifacts and items – both increase the character's abilities somehow. Often the only difference is that items can be traded forward to other players. We use the word "losing" for both possessions and abilities.

This is also supported by the observation that we relate to product brands as personalities and use them to build our own identity (how we see ourselves) and image (how others see us) (Aaker 1997). However, this also applies to the services we use, companies themselves and other organizations we are involved with, which are not our "property" in the same sense. If we want to see that our physical possessions are somehow more a part of us than our lifestyle, actions and anything reflecting our values, we probably need to distinguish between the objects themselves and the brand (or other class of things) they represent (e.g. whether you like cats in general or whether you like a specific cat). However, considering William James' description of the phenomenon...

> *"... All these things give him the same emotions. If they wax and prosper, he feels triumphant; if they dwindle and die away, he feels cast down, – not necessarily in the same degree for each thing, but in much the same way for all." (Belk 1988, p. 139)*

...you might feel triumph out of seeing a company whose products or services you like to use prospering (Apple fanatics as an example).

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308 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

309 E.g. The Finnish verb "kuulua" is similarly used for both meanings. However, a different case (or tense) is used for belonging to a group ("johonkin", the illative case, equivalent to the English preposition "into") and belonging to an owner ("jollekin", the allative case, translating freely to the English prepositions "to at" or "onto") and there is no equivalent noun form matching "a belonging" (which would be "kuulumus"?).

Continued on page 69 ▶

If we *are* our possessions – or the "things we call ours" as William James put it in 1890 – the right to decide over the use of one's body – the right to not be attacked or be the object of other unconsented physical force – can be seen as a "property right" or "right of ownership". Most of us take it for granted that people own their own bodies: Others do not have a right to touch or physically anyhow influence others without their consent. Many Libertarians like to conclude that an unquestionable "natural right" to private property in anything physical can be deduced from this notion of "self-ownership".[310] (Rothbard 1998, p. 60)[311] The quote from Leon Wolowski and Emilet Levasseur with which Murray N. Rothbard chooses to end his criticism of land taxation is very descriptive of this mental image:

> "The producer has left a fragment of his own person in the things which ... may hence be regarded as a prolongation of the faculties of man acting upon external nature. As a free being he belongs to himself; that is to say the productive force, is himself; now, the cause, that is to say, the wealth produced, is still himself. Who shall dare contest title of ownership so clearly marked by the seal of his personality?" (Rothbard 1997, p. 305)

This other way of seeing ownership does not make the framework of ownership as "a bundle of rights" contradictory, meaningless or useless – quite the contrary. It sheds some light on why ownership rights are such a delicate and emotionally charged subject of debate, which might be hard to assess "objectively" – from behind "a veil of ignorance."[312]

310 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".
311 "Hence, all legitimate property-right derives from every man's property in his own person, as well as the "homesteading" principle of unowned property rightly belonging to the first possessor." (Rothbard 1998, p. 60)
312 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance".

The question of what rights can be claimed on what kinds of entities remains a difficult subject of debate. In this book, we start from the premise that no universal, objective ethical judgments can be made regarding ownership rights (such as "natural rights"[313]). We take a pragmatic approach pointing out some types of rights that can hamper mutually beneficial human interaction and some rights the absence of which can do so.

Another complexity-adding dimension is the idea of "common ownership". If something is owned by multiple people, who has the right to what and with whose consent? "Common ownership" of "the means of production" is a central notion in Marxism.

What are usually referred to as the "commons"[314] are resources the use of which is not restricted, anyone has the rights "to use"/"of enjoyment", but usually not "to possess"/"of exclusion", "to manage"/"of control" nor "of transmissibility"/"of disposition". This gives rise to a set of moral hazards called "The Tragedy of the Commons"[315], most notably referring to the incentive of each individual to utilize the common property excessively while there is no way to enforce a "duty to prevent harm" – especially harm resulting from overuse.

At the other end of the continuum, there are forms of common ownership, where any action requires consensus from all owners before it can be taken. "The Tragedy of the Anticommons" refers to the inefficiency of use and decision making this results in. (Robson 2012; Heller 1998) For example, one of the owners can prevent a decision that would benefit everyone else significantly, simply due to a small inconvenience it might cause for him only – or out of pure malice. Although this might prevent overutilization, it gives little other incentive for individuals to prevent harm to or make improvements to the asset. Unsurprisingly, family property and inheritances are a huge cause of conflict within families. The Roman's had a law, "nemo invitus ad communionem" – freely translated as "no one can be forced into common ownership" – and this principle is said to be reflected in a lot of modern legislation. (Robson 2012) There clearly are benefits to associating all the responsibilities and rights related to an entity to one person.

313 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".
314 Walljasper, Jay, "Expanding the Meaning of the Commons", On the Commons, 24th Mar 2010, cited 22.10.2013, http://onthecommons.org/expanding-meaning-commons
315 "The Tragedy Of The Commons", definition, Investopedia, cited 22.10.2013, http://www.investopedia.com/terms/t/tragedy-of-the-commons.asp

Any democratic decision making requiring different sizes of majority (or other conditions) for different decisions can be seen as compromises between the Tragedy of the Commons and the Tragedy of the Anticommons. "The state" or any kind of (non-despotic) central government and its property can be seen as a kind of "common ownership vehicle. In this light, it is understandable that many (most notably libertarians) are strongly opposed to any state of forced participation.[316] However, there are situations in which such arrangements might be the "least bad" option, as will be explained in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

> "You shall not steal." ... "You shall not covet your neighbor's house. You shall not covet your neighbor's wife, or his male or female servant, his ox or donkey, or anything that belongs to your neighbor." – The Bible, Micah 15 & 17

> "Woe to those who plan iniquity, to those who plot evil on their beds!" ... "They covet fields and seize them, and houses, and take them. They defraud people of their homes, they rob them of their inheritance." – The Bible, Micah 2:1-2

316 See "6.3.2 Appendix 3.2: The Challenges with Democracy".

1.1.8 Labor and Capital (and Land?) – The Factors of Production

In short:

- ***The factors of production – inputs needed for production – can be reduced to capital and labor.***
- ***Anything the existence of which allows benefits (including easier production of goods) in the future can be considered capital – e.g. machines, skills, relationships, permits and biodiversity.***
- ***Some (e.g. Georgists, classical economists) separate "land" – meaning "natural resources" that cannot be created with human labor – from "capital" as a third factor of production.***
- ***It is not so that capital = "money" and labor = "people", but rather that labor = "activity" (or "effort") and capital = "patience" + "risk bearing" (or "responsibility"). People supply both.***
- ***The profit requirements of individual capital investments (i.e. the "cost of capital") depend largely on (1) the return of the mos risk-free investment option, which in our current system is determined by the mark interest rate – which in turn depends on people's time-preference (impatience) – as well as (2) the costs attributed to risks regarding the outcome of an investment. And both of these can be negative! Thus, investments don't always need to make a profit to be (sufficiently) "profitable".***
- ***If we take all the labor (from the whole supply chain) that is needed for producing a product or service, how much beforehan on average that work is done is essentiall the "capital intensity" of the production method.***

> "Capital wealth is merely the means to the end called income, while capital value (which is the sense in which the term capital is ordinarily used by interest theorists) is merely the capitalization of expected income." – Irving Fisher, Theory of Interest (1930, p. 27)

> "[C]apital is not a self-subsistent entity existing apart from consumption. On the contrary, every weakening in the propensity to consume regarded as a permanent habit must weaken the demand for capital as well as the demand for consumption." ... "When a man buys an investment or capital-asset, he purchases the right to the series of prospective returns, which he expects to obtain from selling its output, after deducting the running expenses of obtaining that output, during the life of the asset." – John Maynard Keynes (1936, p. 71 & 88)

> "Interest on durable goods and interest on consumption-credit are like other kinds of interest an outgrowth of the higher valuation of present goods as against future goods." – Ludwig von Mises, Human Action (1963, p. 526)

> "The selling-price of an asset on the market will be the capitalized value of its expected future rents: the capitalization to take place at the going rate of interest. The rate of interest is the price of 'time,' and hence future earnings are discounted back to the present at this rate." – Murray N. Rothbard, A Reply to Georgist Criticisms (1997, p. 307)

As explained in "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" appreciating things is a human tendency and all value is subjective. Therefore also "costs" are subjective. The cost of labor is mostly the opportunity cost of not getting to do something else with your time. Any mental or physical discomfort or distress might be considered part of the real costs – "negative value" – of labor (as the meaning of its adjective form "laborious" implies). With more arduous work, real costs also include health threats and other risks.

If all "costs" are human experiences and the cost of a thing can be reduced to the amount of labor (trouble, nuisance and lost time etc.) that the thing causes, then what right do some people have to get income without work – make a profit just by holding "capital"? Karl Marx is probably the most famous person to ask this question. He insisted that the value of a good is only determined by the amount of labor required to produce it.[317] There is a logic behind this argument, but it omits the facts that:

- the same labor and benefits might be valued differently according to when they are executed or received, i.e. costs and benefits have a *time value*, and
- the benefits resulting from work cannot always be known for sure beforehand, i.e. production and investments involve *risks* and *uncertainty*.

This is where "capital" steps in. Sometimes significant amounts of work have to be done before a project produces anything useful, enjoyable or otherwise consumable.[318] The cliché example of this is a machine that allows more efficient production later, but requires lots of work to design and build it before production of the end products can be started.

Now, "capital" (like many other economic terms, as we will see) is "an extremely vague term and its specific definition depends on the context in which it is used".[319] The concept of "financial capital" is returned to in "Sidenote Box 118C: Marx's 'Capital' Is Closer to Financial Capital" and "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks". Some common definitions of capital (in the context of economics) include "a factor of production that is not wanted for itself but for its ability to help in producing other goods"[320] and that it is "composed of those already produced or pre-existing resources that are used in production of other goods or services, but are not destroyed significantly in the production process".[321] Georgists define capital as:

> "[w]ealth used in the process of production, which includes wealth in the course of exchange"[322] or "wealth used to produce more wealth, or wealth in the course of exchange"[323]

(for "wealth", see: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'") and labor as:

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317 See: "Sidenote Box 113A: Objective Value Theories and Morality".
318 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".
319 "Capital", Investopedia, cited 21.5.2013, http://www.investopedia.com/terms/c/capital.asp
320 "Capital", List of Wikipedia entries, cited 21.5.2013, http://en.wikipedia.org/wiki/Capital
321 "Capital (Economics)", Wikipedia entry, cited 21.5.2013, http://en.wikipedia.org/wiki/Capital_(economics)
322 "'Economics' and 'Political Economy'", Henry George Institute, cited 18.6.2013, http://www.henrygeorge.org/def2.htm
323 Davies, Lindy, "LI Essays #3: Capitalism", cited 19.6.2013, http://www.landreform.org/es3.htm

> "[a]ll human exertion in the production of wealth and services." [324]

In this book (in the context of "factors of production") we define "labor" as any kind of human *activity* or *effort* (including mental effort) that is considered to produce value (also) other than direct enjoyment from the activity itself (allowing it to be "fun" or otherwise valuable for the provider as well[325]). We take a similarly very broad version of the former two definitions of "capital": Anything that makes - or has the potential to make - future benefits possible or easier to produce can be considered capital. This closely follows Irving Fisher's conception of capital:

> "Many people think of interest as dependent directly on capital. As already suggested, it will help the reader to proceed in the following analysis if he will try to forget capital and instead think exclusively of income. Capital wealth is merely the means to the end called income, while capital value (which is the sense in which the term capital is ordinarily used by interest theorists) is merely the capitalization of expected income." (Fisher 1930, p. 27)

Comparing a production process to a chemical reaction, catalysts like enzymes and favorable conditions like temperature could be considered "capital", while the heat energy consumed by an endothermic reaction (i.e. one not producing heat) would be analogous to labor.

Capital can take the form of any resource or other "store of value", regardless of whether it is currently employed in any production.

In his Theory of Interest, Fisher writes:

> "In attempting to prove that the laborer should receive the whole product, the socialist stands on stronger ground than has sometimes been admitted by overzealous defenders of the capitalist system." (Fisher 1930, p. 25)

This is because in many cases (in all cases if we distinguish "land" from capital, as will be explained) capital is produced with human labor. But what Marxists ignore is that both the labor and the produced benefits have *time value*! If most of the benefits of a kind of labor (like planting a tree or building a house or a machine) are received much later than when the required work needs to be done, then having to wait for those benefits might have a cost. As Fisher quotes Eugen von Böhm-Bawerk:

> "The perfectly just proposition that the laborer should receive the entire value of his product may be understood to mean either that the laborer should now receive the entire present value of his product, or should receive the entire future value of his product in the future. But Rodbertus and the socialists expound it as if it means that the laborer should now receive the entire future value of his product." (Fisher 1930, p. 25)

But can we really reduce the factors of production to capita and labor? What about materials and components? From the perspective of one company, materials are a significan factor of production, but these materials are produce by other companies using their mix of capital and labo No material has any intrinsic value - just its value in us (subjective value[326]), value in trade (market value[327]) an the costs of the capital and labor needed in the who supply chain leading to its production. Sometimes capit and labor (and land) are called the "basic" or "prima factors of production", while materials and energy a called "secondary factors of production".

Along this definition of "capital" based on the capaci to facilitate or generate future income, natural resourc can also be considered capital. Although no human h ever toiled to create them, they facilitate the producti of goods and services, and if they are destroyed their quality deteriorates, our ability to produce goo decreases. Replacing destroyed natural assets or allowi them to regenerate can involve labor or opportunity co of having to give up using them for a while. Some natu resources, such as biodiversity are practically irreplaceal - which does not make them any less valuable as capita on the contrary.

A company isn't created with ownership of any natu resources, but it has to gather capital in some other fo to pay for the extraction work required to extract the resources - and any needed rights to extract them (e land ownership and mining licenses). When natu resources are freely available (such as berries, mushroo and lake water in Finland) their market value is or the cost of extracting and delivering them for use. Wh their cost of extraction is non-existent (like that of air currently) then they are called "free goods".[328]

As mentioned under "1.1.7 Ownership as a Bundle Rights", there is variance in what rights of use of natur resources are included in land ownership. Normative this is a challenging question due to the above-mentione irreplaceability. It is discussed in more detail und

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324 "'Economics' and "Political Economy", Henry George Institute, cited 18.6.2013, http://www.henrygeorge.org/def2.htm

325 This makes it possible, theoretically, for a kind of labor to have a "negative wage" if supply and demand so require. See: "1.1.6 The 'Market Forces' - How Prices Balance Supply and Demand".

326 See: "1.1.3 Value Is Subjective and Perceived - Rationality Is Large an Illusion".

327 See: "1.1.6 The 'Market Forces' - How Prices Balance Supply an Demand".

328 "Free goods", entry, BusinessDictionary.com, cited 18.6.2013, http:// www.businessdictionary.com/definition/free-good.html

"1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land" and "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

This special nature of natural resources, that they cannot be produced with human labor, is why e.g. classical economists and Georgists separate them into a third factor of production, "land":

> "The entire material universe exclusive of people and their products.
>
> Everything physical (other than human beings) which is not the result of human effort is within the economic definition of land. This concept thus includes not merely the dry surface of the earth, but all natural materials, forces and opportunities. The trees in a virgin forest are land; in a cultivated forest they are wealth.
>
> Radio and TV communications use the radio spectrum, a limited natural resource. Drivers of SUVs and other fuel-burning machinery use the earth's atmosphere as a dump for their greenhouse-gas wastes. To understand the meaning of land as a factor of production, we must conceive and define land broadly, as the entire set of natural opportunities."[329]

The example of "trees in a virgin forest" versus "a cultivated forest" hints that the distinction of "which is the result of human effort" is not always so clear. The recovery of animal populations can be supported with labor, although not from extinction (with current technology). New technologies allow making useful materials out of previously useless materials and even extending land into the ocean by e.g. building dams and moving soil. As some suggest, the digital age has seen the emergence of many "new" resources that behave more like land (such as domain names, patents and other intellectual property rights in some cases[330 331]) which further makes the "landness" of different kinds of resources not quite as explicit as Georgists like to think it is. Ownership of "space" and "location" – which "land ownership" essentially is[332] – is still very different from the ownership of other kinds of scarce natural resources, as land is not a homogeneous, fungible commodity.

In this book, we do not distinguish "land", as in natural resources, into a factor of production of its own. This is not to downplay the importance of the special nature of natural resources, but, on the contrary, (1) because we want to allow separate discussion of different kinds of natural resources (renewable/non-renewable, destructible/indestructible, vital/non-vital etc.); (2) in order to avoid confusion with the specific case of "undeveloped real estate" and its "location value"; (3) because also natural resources can be traded between parties and invested in just as any other form of capital (and hence they affect other capital investment in the market); and (4) because some human made "assets" also behave much more like the classical and Georgist "land" in the sense that simply owning them allows restricting others' possibilities. Most notably this includes patents (technology monopolies), but, in a sense, academic degrees and (other) operating licenses in certain industries (such as taxi permits[333]) when limited in quantity are similar *privileges* granting windfall gains and opportunities for extortion.[334] We could refer to this category of assets that can yield individual persons and companies higher income without actually increasing total real productivity (and that are not producible) as "privileges". Land, as in owned location, could arguably better belong to this category of "privileges" than that of "natural resources" (see: Graph 8), as its value is largely dependent on the productivity of the local human society. Both natural resources and privileges create "rent-seeking" opportunities.[335]

In this book we often refer to "land-like" capital as "limited resources" and "limited, vital resources," which are one way to make unfair profits *with* capital – just as achieving a monopoly position or keeping others in debt by not giving them the opportunity to pay their debts back (usury).[336]

All productive "real" capital is not composed of physical assets. New technologies – in addition to facilitating new kinds of capital investments for more efficient production of existing or new goods – are capital in themselves and R&D (research and development) activities producing technologies and innovations are investments just like constructing a building, a factory or a robot. And also customer relationships and insight into customer needs are capital. For some companies and industries (e.g. consulting) they are the most important kind of capital.

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329 "'Economics' and 'Political Economy'", Henry George Institute, cited 18.6.2013, http://www.henrygeorge.org/def2.htm

330 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".

331 Yglesias, Matthew, "Newfangled Capital", Slate.com, MoneyBox blog, 14th Jun 2013, cited 17.6.2013, http://www.slate.com/blogs/moneybox/2013/06/14/new_fangled_capital.html

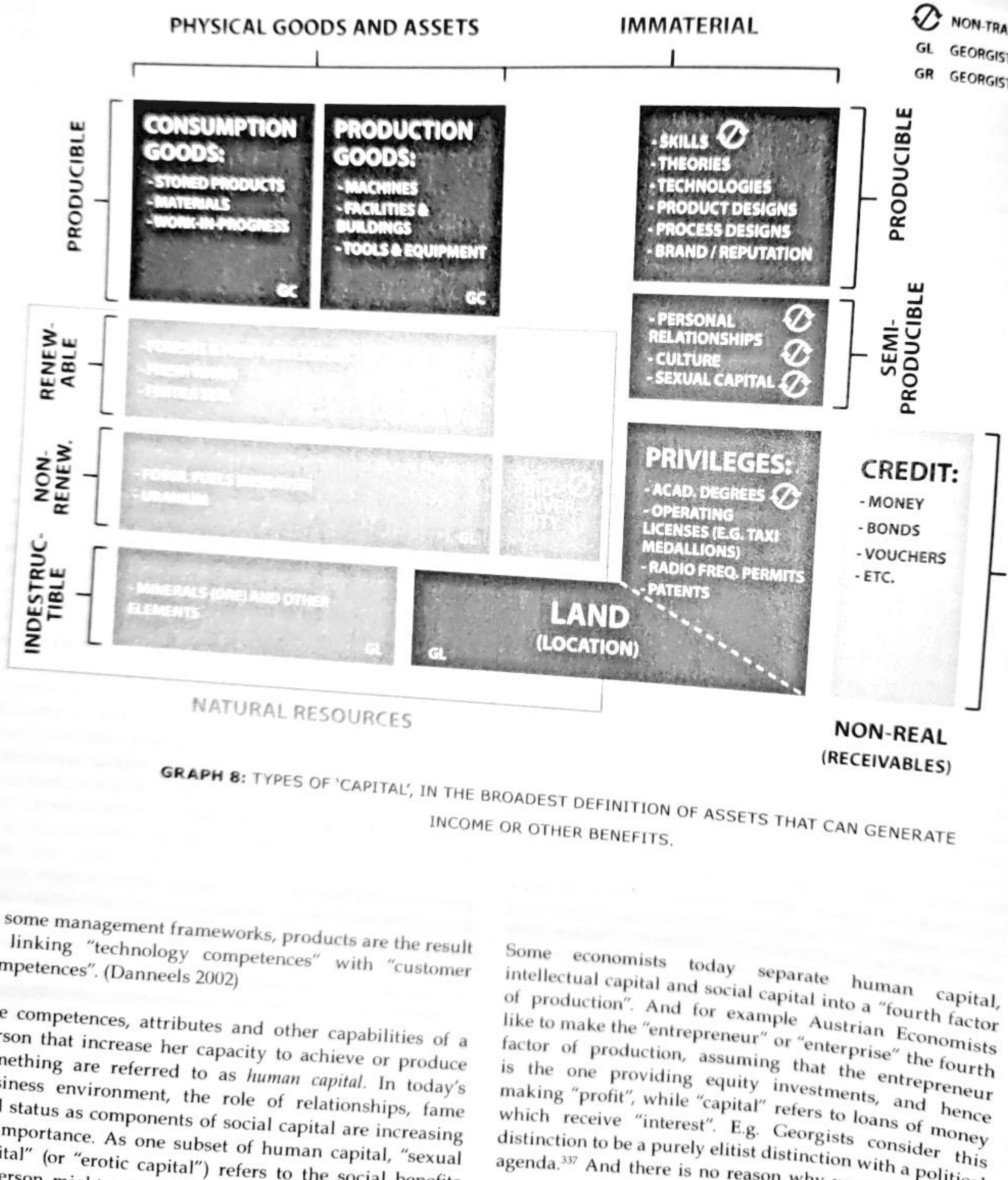
332 See: "4.3.1.1 Land – One Mother of a Monopoly".

333 Badger, Emily, "Taxi medallions have been the best investment in America for years. Now Uber may be changing that", The Washington Post, 20th Jun 2014, cited 14.8.2014, http://www.washingtonpost.com/blogs/wonkblog/wp/2014/06/20/taxi-medallions-have-been-the-best-investment-in-america-for-years-now-uber-may-be-changing-that/

334 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies", "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'" and "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

335 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

336 See: "4.2 Preventing Excessive Monetary Saving – Allowing Monetary Policy to Balance Aggregate Supply and Demand".



GRAPH 8: TYPES OF 'CAPITAL', IN THE BROADEST DEFINITION OF ASSETS THAT CAN GENERATE INCOME OR OTHER BENEFITS.

In some management frameworks, products are the result of linking "technology competences" with "customer competences". (Danneels 2002)

The competences, attributes and other capabilities of a person that increase her capacity to achieve or produce something are referred to as *human capital*. In today's business environment, the role of relationships, fame and status as components of social capital are increasing in importance. As one subset of human capital, "sexual capital" (or "erotic capital") refers to the social benefits a person might gain due to her attractiveness to other people – which is not only limited to physical attributes.

Some economists today separate human capital, intellectual capital and social capital into a "fourth factor of production". And for example Austrian Economists like to make the "entrepreneur" or "enterprise" the fourth factor of production, assuming that the entrepreneur is the one providing equity investments, and hence making "profit", while "capital" refers to loans of money which receive "interest". E.g. Georgists consider this distinction to be a purely elitist distinction with a political agenda.[337] And there is no reason why we can't consider

337 "Deconstructing Economic Text", Henry George Institute, cited 18.6.2013, http://www.henrygeorge.org/pdfs/decons.pdf

the expertise (including market insight) and creativity of an entrepreneur to be human capital and his supervision and coordination work to be forms of labor – and this labor, when unpaid, to be "sweat equity investments" into the company (work done beforehand, just like any other capital). The "entrepreneur distinction" makes the "factors of production" sound rather like a classification of *people* into "classes", separating them into "laborers" (who supply only labor), "capitalists" (bankers, who supply only capital) and "entrepreneurs" (who supply both).

But what are the costs of capital then? In other words, what determines the reward that owners of capital assets require? Of course, capital goods – also called production goods – can also deteriorate physically both in use and with time and therefore require maintenance or replacement. (Also skills erode and require revision and updating.) However, these costs can rather be thought of as labor costs of the production process. When the wear is in direct proportion to use, replacement, repair and other maintenance costs are direct labor costs in terms of the company's planning process, and when the wear occurs with time regardless of use, they are fixed costs, like administration overhead costs and lighting. In national accounts, replacement investments can be calculated by subtracting net investment – the increase in total real assets – from gross investments – total amount of new real assets produced. Replacement investments are also referred to as *"capital consumption"*,[338] as in the deterioration of capital assets.[339]

The actual *cost of capital* – of the part that isn't "consumed" – is the cost of someone having to (1) wait for future benefits and (2) carry the risk of not getting those expected benefits despite having paid for the work done upfront – i.e. having *saved* and made the *investment*. As mentioned, these are the costs Marx ignores.

"Profitability" in its simple definition can refer to the amount of profit an investment makes – revenues minus expenses. But when asking the yes-no question of whether an investment is "profitable" or not, this does not usually mean whether it leaves a positive or negative number "on the bottom line". Rather, it is asking whether the investment is lucrative enough to be made – whether the expected number on the bottom line (or, rather, the bottom line numbers of all future years together) meets the profit requirements (the costs of capital) set for the investment. In this sense of "profitability", the relative "profitabilities" of two investments do not only depend on the expected amount of profit and the capital needed, but also on the perceived risks involved.

The *net present value* (NPV) of any asset or investment is the sum of the future incomes (for companies, inward cash flows) and expenses (outward cash flows) it facilitates or causes *discounted* by a discounting interest rate, r, which is the investment's profit requirement, a.k.a. its "cost of capital." "Discounting" means adjusting each future year's incomes and expenses by multiplying it by the discounting factor $(1/(1+r))$, the more times the further the year is in the future. If P_i is the net income for year i (P_0 is the income for the current year, P_1 is income for the next, P_2 for the one after that and so on), then the net present value of the income stream P is calculated as follows:

$$NPV = \sum_{i=0}^{\infty} \frac{P_i}{(1+r)^i}$$

The discounting interest rate (r) is practically the "break-even profit requirement" of an investment: Investments with a positive NPV are worth making, assuming that the expected incomes are realistic and the discounting interest rate is determined by taking all the risks and uncertainties involved sufficiently into consideration.

> "The theoretical fair value of the investment is actually the expected cash flows, *discounted* by the time and risk. Discounting is a means to perceive the present value of an investment that will pay out in the future." (Scott 2013, p. 138)

Note that the *present* value of a cash flow is *not* the same as the *"real* value" of the cash flow in "today's dollars". These two are easy to confuse. The "real value" is only corrected for inflation (π) – changes in the purchasing power of money[340] – and it is calculated by adjusting by $1/(1+\pi)$, whereas the discount rate (r) used when calculating present value also accounts for the costs of capital: the costs of risk and impatience (or opportunity costs of alternative investment opportunities).

338 "Capital consumption", About.com, cited 20.2.2013, http://economics.about.com/library/glossary/bldef-capital-consumption.htm

339 Such uses of the word "consumption" as the deterioration of something causes a lot of confusion regarding the more common meanings of "consumption" in economics. See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

340 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

Sidenote Box 118A: Keynes's Liquidity Preference Theory is Outdated

John Maynard Keynes disagrees with interest being determined by time preference and emphasizes instead "liquidity preference":

> "It should be obvious that the rate of interest cannot be a return to saving or waiting as such. For if a man hoards his savings in cash, he earns no interest, though he saves just as much as before. On the contrary, the mere definition of the rate of interest tells us in so many words that the rate of interest is the reward for parting with liquidity for a specified period. For the rate of interest is, in itself; nothing more than the inverse proportion between a sum of money and what can be obtained for parting with control over the money in exchange for a debt for a stated period of time." (Keynes 1936, p. 107)

This conclusion seems logical in a world where cash is the most liquid form of money and with the assumption that "giving out a loan" to someone requires someone else to part with the liquidity of her credit. However, in today's world of electronic money, total liquidity is no longer a limitation: Electronic bank account "deposits" are the most liquid form of money, these deposits also have interest paid on them[341] and banks can create as much liquidity as the market demands by issuing new loans. Our current monetary system will be explained in more detail in "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

Although people's liquidity preference is no longer a significant determinant of the interest rate in general, it is an explaining factor between the interest rates of liquid bank account deposits and less liquid risk-free credit, such as savings account deposits or government bonds (of governments with their own sovereign currency). Uncertainty in the market – for example mistrust in the central bank's ability to keep inflation stable[342] – can significantly increase interest rates on bonds compared to deposits. This could be considered to be partly the result of an increased "liquidity preference".

Liquidity preference becomes very significant for interest rates on debts if we use a currency of limited quantity. And this further increases the self-reinforcing feedback loops that economic insecurity causes: Insecurity increases people's liquidity preference, which raises nominal interest rates – in addition to deflation raising the real interest rate.[343] And higher interest rates further reduce aggregate demand. Suggestions for limiting the amount of liquidity available (and making banks actually "lend money", which they currently don't[344]) are discussed in "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

341 On how the interest paid on liquid deposits also kills "the Friedman Rule" for optimal inflation, see: "4.2.4.6 The Friedman Rule for Optimal Inflation".

342 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

343 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

344 See: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".

In the investment market, any (rational) individual investor who already has savings that he is not planning to consume chooses what to invest them in by comparing investment options with each other. Therefore, the profit requirement of any investment is the profit yielded by the available risk-free investment option plus a risk premium determined by the uncertainty of the income from the investment and the investor's averseness to risk.[345] In a liquid investment market,[346] impatience to consume (

345 "Risk premium", Investopedia, cited 16.4.2013 http://www.investopedia.com/terms/r/riskpremium.asp

346 The service lifetime of an investment good or the time it takes build the good has little relevance for investment choices in an efficie and liquid market, where financial assets, other investments (like re estate) or even an ongoing investment project (like the construction of ship) can be sold on to other investors if the investor needs consumab or reinvestable income earlier. Of course, some investments are less li uid. With e.g. startup companies (or the investment of writing a book it takes time to achieve such a level of credibility for the business (or th book project) that other investors would be ready to value it as highly a someone who is strongly involved in it and who has spent a lot of tim investigating its potential (information is strongly asymmetric, see mar

it is called in Fisher's theory) has no effect on the choice between different investment options, as each investment involves the opportunity cost of investing in the risk-free option – when such an option is available.[347]

However, if the *yield* (expected profit) of every available investment option, including the risk-free option, is too low to justify the patience and risks (i.e. the net present value of the investment is negative), a person might – and should if he is acting even remotely rationally or "consequentialistically" – decide not to save or invest and rather to spend off the savings for additional consumption or free time.

What we need to understand here is that when deciding between consuming and investing your income, no one else can tell you what discounting rate you should use. **The "internal discounting rate" of an investor-consumer is a matter of subjective, personal preference**. Both the cost one attributes to waiting for benefits and to different levels and types of risk are subjective, perceived costs. However, this does not make them any less real costs than e.g. the cost of one's own labor or the value of a product. Remember that all value is perceived.[348] Similarly, no one else can tell you the lowest price you should be ready to accept for a specific work gig.

In his "The Theory of Interest, As Determined by Impatience to Spend Income and the Opportunity to Earn It" (1930), Irving Fisher refers to this discounting interest simply as the "rate of interest". His theory largely bypasses risks in individual investments and focuses on time preference, which he also calls "human impatience" making a fairly good account of factors that might affect the internal interest rate of an (rational) investor-consumer. The most noteworthy effects are those of one's total present income and expected future income (not limited to the capital income from one's savings and investments): A person living hand-to-mouth is unlikely to sacrifice any current income for even significantly higher future benefits. If he did, he might not even survive long enough to enjoy them. Instead, a person earning more than he urgently needs can be enticed to save with a much smaller reward. In addition to total income, the "time shape" of one's expected future income matters:

> "The fact that a person's income is increasing tends to make his preference for present over future income high, as compared with what it would be if his income were flowing uniformly or at a slackening rate; for an increasing income means that the present income is relatively scarce and future income relatively abundant." (Fisher 1930, p. 31)

As long as people value any security, certainty and predictability, risk in income is a cost:

> "In short, a risky income, if the risk applies evenly to all parts of the income stream, is equivalent to a low income, and, since a low income, as we have seen, tends to create a high impatience, risk, if distributed in time, uniformly or fairly so, tends to raise impatience." (Fisher 1930, p. 32)

If one expects a fairly certain income stream in the *near* future, but one's long-term total income is uncertain (e.g. people who have jobs with a fixed salary, but a risk of losing it at some point and not finding another), this is equivalent (in Fisher's thinking) to a declining income stream, which decreases impatience. In practice, we can see how increased uncertainty in the economic environment can significantly lower people's internal rate of interest (discounting rate) – even to the negative side – and increase saving significantly. If long-term earning opportunities were secured, the threshold to spend off savings and to take on debt, if necessary, to pass periods of temporary income volatility would be lower.[349]

One very important conclusion is that **the average profits made by investments (capital) in a market (with fair competition) are largely determined by the market interest rate** – the yield of the available risk-free investment option. Even Adam Smith noted this strong connection between the interest rate and overall profits,[350] but – treating money as a commodity of limited supply – assumed that the interest rate was determined by the profits that can be made by real investments, as this made borrowers more willing to pay high interest rates to lenders. But – at least with today's kind of credit

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ket imperfections under "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".)

347 This is why the price-to-earnings (P/E) ratio of a company whose stock is traded publicly mostly reflects the risks associated with the business. Lower risk-businesses and ones expected to grow have a higher P/E ratio as investors are ready to pay more for stocks yielding the same expected profits with a lower volatility. With no changes to perceived business risks, then the stock price of a company tends to rise approximately in proportion with the net present value of the company's expected future cash flows. As all investments are compared to the risk-free investment option – risk-free, government-backed credit (see: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money") – average P/E ratios also rise (in excess of changes in market risks) when the market interest rate is higher.

348 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

349 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free", "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

350 "It may be laid down as a maxim, that wherever a great deal can be made by the use of money, a great deal will commonly be given for the use of it; and that, wherever little can be made by it, less will commonly be given for it. Accordingly, therefore, as the usual market rate of interest varies in any country, we may be assured that the ordinary profits of stock must vary with it, must sink as it sinks, and rise as it rises. The progress of interest, therefore, may lead us to form some notion of the progress of profit." (Smith 1776, p. 78)

money[351] and in the absence of monopoly industries or resources setting a minimum standard for returns[352] [353] – the causality[354] is rather the other way around: Deposit interest rates – the profits lost for not holding risk-free credit – determine the opportunity cost[355] of making a risky investment.

The other very important conclusion here is that, **in order to be "profitable" (enough), an investment does not necessarily need to make a profit**, i.e. give you more back than you "paid" for it – not in nominal terms (i.e. measured in money) nor in real terms (i.e. in the quantity and quality of goods and services).[356] Capital and its costs (profit requirements) should be just as much subject to supply and demand as labor and wages are.

And the costs of both capital and a kind of labor can be negative: If there is an oversupply of financial capital (of some risk profile) even at an expected return of zero, capital (of that risk profile) needs to make a loss. If some line of work is so desirable that people are willing to pay to get to do it, the wages for it can become negative. E.g. being a supporter of a football team or paying membership fees to (or doing voluntary work for) a club to get to do a hobby (such as singing in a choir or taking part in producing an amateur theatrical production or lifting weights) could be seen as doing "negative-wage work". Also John Maynard Keynes notes that for an unemployed person, having at least some work would have positive utility, i.e. a negative cost, compared to not having work at all. It might feel better to do voluntary work for no pay than feel completely useless:

> "When involuntary unemployment exists, the marginal disutility of labour is necessarily less than the utility of the marginal product. Indeed it may be much less. For a man who has been long unemployed some measure of labour, instead of involving disutility, may have a positive utility." (Keynes 1936, p. 85)

If your internal discounting rate is negative – meaning that you value future benefits more than you value current ones – you are ready to save for your future even if you made a loss (in real terms) by doing so, i.e. even if you knew you were going to get back less in that future than you gave up now.

A loaf of bread in a year's time might be worth more to you than a loaf of bread today. Especially if that guarantee of a loaf of bread is certain while your other future income is uncertain. Let't assume that crops are perishable so that they cannot be stored for over a year. If a farmer makes a good harvest this year and fears for his next year's crop yield, he might exchange two sacks of grain now for the promise of one sack the next year – constituting a deal with a -50% rate of interest. But such a "negative time preference" might also result from simply preferring to "first work and then play": The farmer wants to work hard this year to be able to go on a holiday the next year.

Irving Fisher also mentions the possibility of a negative interest rate in his theory of interest.

> "Time preference may not always be a preference for present over future goods; it may, under certain conditions, be the opposite. Impatience may be a sometimes is negative!" (Fisher 1930, p. 29)

Unfortunately, he then ignores its implications for the market interest rate mechanism he theorizes: the problem that, when granting credit occurs by "lending" physical cash, nominal negative interest rates cannot be charged by a "borrower", i.e. debtor.[357] Hence, savers would simply not lend, as they would get bigger yields by just holding on to their notes and coins – in Fisher's terms, the lending market would not be "cleared".[358]

Ludwig von Mises, an Austrian economist who adopted Böhm-Bawerk's time preference view of interest (the pro requirements of all capital),[359] simply concludes (through quite a questionable induction) that people always prefer current goods to future goods – that a negative discount rate is not possible.[360] Other Austrian economi

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351 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

352 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".

353 "As I have mentioned above, there have been times when it was probably the craving for the ownership of land, independently of its yield, which served to keep up the rate of interest;- though under Gesell's system this possibility would have been eliminated by land nationalisation." (Keynes 1936, p. 221-222)

354 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

355 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

356 Many socialists and other anti-capitalist activists like to think so and include this assumption in their arguments that a monetary economy is inherently flawed (see: "3.1.2.1 The Perpetual Debt Hoax, a.k.a. The Fallacy of Unpayable Interest", "3.1.2.2 'Companies Have to Grow or Die', and "").

357 The natures of money and credit is returned to in "1.2 Credit, Money and Banking", the problem of negative interest rates in "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash", why "lending" money is a misleading expression in "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'" and land as another safe haven under "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".)

358 After losing significant portions of his own property in the market collapse of the Great Depression, Fisher admitted that the assumption of "markets always clearing" is unrealistic.

359 "Interest is a homogeneous phenomenon. There are no different sources of interest. Interest on durable goods and interest on consumption-credit are like other kinds of interest an outgrowth of the higher valuation of present goods as against future goods." (Mises 1963, p. 526)

360 "Time preference is a categorial requisite of human action. No mode of action can be thought of in which satisfaction within a nearer peri

such as Robert Murphy debunk this theory with clear case examples where people can have a negative time preference both due to inherent preferences ("exogenous or ex ante") and external conditions ("actual or ex post"), such as future income insecurity. (Murphy 2001, p. 2) Murphy concludes that interest must be considered purely a monetary phenomenon.[361] In doing so, Murphy essentially confirms Silvio Gesell's (1916) view that a commodity money without "demurrage"[362] is a tool for extortion and that savers and "money-lenders" are like "robber barons" taking a toll for restricting free trade.[363] [364] This book does not exactly agree with Gesell either, as it suggests that the whole frame of money as "a medium of exchange" is very misleading.[365]

It is also noteworthy that not everyone attributes significant cost to risk in every situation. The whole gambling industry practically relies on the fact that in some cases people attribute *value* to chance – i.e. risk can have a negative cost! The thrill yielded by the possibility of winning and the fear of losing can have positive value. Economists have noted this peculiarity since the 18th century, but there is disagreement over how much of it is actually value attributed to risk and how much cognitive biases, such as overestimation of the upside potential. As Adam Smith puts it:

> "The chance of gain is by every man more or less overvalued, and the chance of loss is by most men undervalued, and by scarce any man, who is in tolerable health and spirits, valued more than it is worth. That the chance of gain is naturally overvalued, we may learn from the universal success of lotteries." (Smith 1776, p. 93)

According to John Maynard Keynes, this seemingly irrational temptation of risk also applies to entrepreneurs:

> "[T]hough, if we exclude the exploitation of natural resources and monopolies, it is probable that the actual average results of investments, even during periods of progress and prosperity, have disappointed the hopes which prompted them. Business men play a mixed game of skill and chance, the average results of which to the players are not known by those who take a hand. If human nature felt no temptation to take a chance, no satisfaction (profit apart) in constructing a factory, a railway, a mine or a farm, there might not be much investment merely as a result of cold calculation." (Keynes 1936, p. 97)

The human need for uncertainty has also been studied in psychology and featured in many life coaching and happiness frameworks. Tony Robbins's framework for example states "uncertainty" as one of six basic human needs.[366]

So what would be the "productivity of capital"? "Capital productivity" is actually not a very meaningful term and it is quite carelessly used to refer to different things. An increase in *labor productivity* means that less labor is required to produce the same output. But if less capital is required to produce the same output, what essentially happens is that *capital intensity* (will be explained later in this chapter) is reduced without labor productivity decreasing. If low amounts of capital employed would mean "high capital productivity", "capital productivity" would be the highest in nomadic hunter-gatherer societies – where *capital intensity* is low.

On the other hand, what is often meant by "the productivity of capital increasing" is an increase in the revenue (and hence profits) that existing capital assets generate for their owners. But this is a matter of *income distribution* (between labor and capital) and does not necessarily have anything to do with real productivity increasing. For example, a monopoly can raise the profits it makes simply by raising prices. (Contrary to common belief and some neoclassical theories, the distribution of income between types of labor and capital are *not* determined by their "marginal

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of the future is not – other things being equal – preferred to that in a later period." ... "If he were not to prefer satisfaction in a nearer period of the future to that in a remoter period, he would never consume and so satisfy wants. He would always accumulate, he would never consume and enjoy. He would not consume today, but he would not consume tomorrow either, as the morrow would confront him with the same alternative." (Mises 1963, p. 484)

361 "For example, it might be that a certain man does not exhibit TP in sense (ii); that is, if all else were equal, he would be indifferent between a marginal present or future good. However, if in a particular scenario all else were not equal – if, e.g., he knew he would be very rich in the future compared to today – then the man quite reasonably could prefer a marginal present good to a future good; that is, he would exhibit TP in sense (i). Thus, we could say of this man that he does in this particular situation prefer present to future goods, but not that he does so as a general rule. On the other hand, it might be that a certain woman does, as a general rule, prefer present to future goods; she thus exhibits TP in sense (ii). So if she knew she would be equally wealthy in the future as she is today, she would prefer a marginal present good." ... "Suppose that she knows she will be much poorer in the future. This effect can completely overwhelm her exogenous preference for the present, such that she actually prefers a marginal future good. This woman would thus exhibit TP in sense (ii) but not in sense (i)." ...
"Austrians should reject any theory of interest that deals only with 'real' phenomena, to the exclusion of money. A positive interest rate is simply a higher price for present money units versus future money units." (Murphy 2001, p. 2-3 & 22-23)

362 See: "4.2.1.4 Demurrage Is Unnecessarily Costly to Implement".

363 See: "Sidenote Box 4211A: Silvio Gesell's Theory of 'Basic Interest' and 'Free-Money' – The Same in the 'Medium of Exchange' Frame".

364 Both Murphy's and von Mises's agenda seems to be trying to find a solid *justification* for *positive* interest, instead of questioning it's necessity. This is quite a typical human tendency as explained in "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

365 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

366 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

productivities". Often their "productivities" cannot even be compared to each other.[367])

The cash flows that a capital asset is expected to generate (including the "exit": a final sales price or the face value received at the maturity of a bond) determine its market value. Therefore, in an efficient market with perfect information, the expected *profitability* of different existing assets on the financial market with similar risk profiles all converge to the same profit requirement. If an asset (like the shares of a company) is suddenly expected to generate higher cash flows, its market price rises immediately to a level at which its expected *yield* again matches the profit requirement. This is why changes in market interest rates significantly affect the market prices of e.g. government bonds with preset interest rates.

More risky investments are of course more "profitable" for investors with better than average risk tolerance, as such investors discount them by a lower rate than people (or institutions) on average and vice versa. And, of course, *a posteriori* (in hindsight), due to the risks and uncertainty involved, there is significant variation in how well investments actually end up producing value and hence how profitable they end up being.

But many assets can also be *produced* and new companies established instead of purchasing existing assets or company shares on the investment market. It is far more interesting to compare the *production costs* with potential yields, as that is what affects companies' and people's desire to make *real investments*. Just as with consumption goods, when the market prices of some kinds of assets rise above their production costs, it becomes profitable to produce more of them – the supplied amount increases with rising demand.[368]

> *"Over against the prospective yield of the investment we have the supply price of the capital-asset, meaning by this, not the market-price at which an asset of the type in question can actually be purchased in the market, but the price which would just induce a manufacturer newly to produce an additional unit of such assets, i.e. what is sometimes called its replacement cost." (Keynes 1936, p. 88)*

Keynes referred to the "relation between the prospective yield of a capital-asset and its supply price or replacement cost" (Keynes 1936, p. 88) as the "marginal efficiency of capital". Irving Fisher called this "the rate of return over cost". (Keynes 1936, p. 91) In finance, this is nowadays more commonly called the "internal rate of return" (IRR), which tells what percentage of compound annual p the investment makes, i.e. what discounting interest would give the investment an NPV of zero.

These measures do *not* include the profit requirement capital and have to be compared to them (e.g. "Is the higher than the profit requirement?"). The profitab index[369] (PI) is the net present value of future cash fl divided by the initial investment, which gives a n intuitive view of the relative profitability of investm of different sizes (and different risk profiles) than calculating NPVs.[370]

An interesting implication of such a definition – giv additional justification for the separation of "land" f "capital" – is that if we consider non-producible nat resources (e.g. biodiversity or mineral ore reserves) type of "capital", then their marginal efficiency (or P always zero – as their replacement costs would be infi However, if the natural asset could be employed both ways that deteriorate it – "consume the capital" (e.g. raz a forest for mining or oil drilling) – and in ways that d (e.g. by using biodiversity to develop a new materia medicine) then we could replace the replacement cost w the (net present) value of the additional benefits that be accrued by permanently destroying the natural as This is because the net present value of future bene that the asset would have made possible (as capital not destroyed, can be regarded as opportunity costs destroying the asset. This makes the marginal efficie of natural assets (and hence the profitability of preserv them) much bigger – especially with lower interest ra (which account more net present value for income far in the future).[371]

There is a lot of variation in *capital intensity* betwe different types of production (different goods, a different technologies used): how much capital th require in proportion to labor. Nominally, capital intens is the capital employed per total potential outp However, the problem with determining "real capi intensity" using the *market value* of the capital employed

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367 See: "3.2.2 Unfair Income Differences and Limits to Social Mobili-

368 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and mand".

369 See: "Profitability Index", definition, Investopedia, cited 22.10.20 http://www.investopedia.com/terms/p/profitability.asp

370 "Every time Chevron decides whether to invest in a new proje such as a new tar sands operation, the managers are supposed to ta into account their shareholder's expectations, referred to in the abstra as their *cost of equity*, or 'what return our shareholders expect from u (e.g. shareholders expect a 15% return'). Chevron managers will add th together with the interest rates they owe debt investors such as banks an bondholders, to com up with an overall *cost of capital*, representing all th demands from those nosy shareholders and parasitic lenders.
In the context of assessing a new project, this cost of capital is sometim called the 'hurdle rate'. A new project may be worth taking on if it's imag ined future returns can jump over that hurdle rate. In the technical jar gon, they may invest in a project if it displays a positive *net present valu* (NPV) or, expressed in another way, if the *project's internal rate of return* (IRR) exceeds the hurdle rate." (Scott 2013, p. 140)

371 See: "4.2.3.5 More Long-Term-Oriented Investment and Company Management".

again, that capital is usually valued according to its profit generation capacity. Hence, a change in the profitability of a company or industry would change its capital intensity, which makes no sense. As with the "marginal efficiency of capital", using replacement costs of the capital assets instead of current valuations provides a solution to this dilemma.

For a company, capital intensity is often measured by its *capital intensity ratio*:

Capital Intensity Ratio = Assets / Sales

Now, we should note that "sales" means the company's sales *per year* or other period (a figure from the company's income statement [$/year]), while "assets" is a value *at* a point in time (a figure from the company's balance sheet[372] [$]) – or, in this case more accurately, the *average* value of the assets during the period in question. Therefore the unit of capital intensity is not a percentage, but years – *time*. If we omit assets that cannot be produced ("land"), we could say that **capital intensity means how much beforehand, on average, has all the work required to produce an end product been done**, compared to when the end product is realized.

If we lived in a theoretical gatherer society without tools, capital intensity would be close to zero because all food is received as it is gathered. In a theoretical industry where goods or services are produced completely by robots that only need to be constructed initially (and the construction required no training or new technology development), requiring no maintenance services during their life cycle, and the robots lasted in operating condition at flat productivity for ten years, the capital intensity of such an industry would be 5 years.

Again, the case of land – non-producible, vital resources – is peculiar. As land cannot be produced and its location value does not erode with time and use, the capital intensity of producing goods and services involving significant amounts of land and/or where location is crucial (e.g. accommodation) doesn't exactly follow the previous interpretation of "how much work has been done beforehand"[373], but is significantly affected by interest rates. This matter and its implications are discussed in further detail under "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

For a company, the *capital intensity ratio* that its balance sheet shows of course also depends on how much of earlier expenses have been *capitalized* into its balance sheet. For example previous investments in training, marketing and R&D are seldom visible in a company's balance sheet: they are accounted as *costs* instead of *investments*. Employee skills, product designs, brand image and client relations are most definitely forms of real capital for the company – often more important forms of capital and sources of competitive advantage than any buildings or machines. But they are usually only capitalized on the balance sheet in cases where they are acquired from the outside (e.g. buying a brand or a patent from another company or a company merger), as their value is hard to estimate accurately and most of their value might be impossible to liquidate in the case of a bankruptcy.[374]

372 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

373 Of course, we could still say: "How much work needs to be done *to acquire* the needed production assets?"

374 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

Sidenote Box 118B: The Trouble with Measuring Capital Financially: 'The Cambridge Capital Controversies' and Piketty's 'Capital'

Intuitively, another tempting measure of "capital intensity" could be the total cost of capital in proportion to the cost of labor in the production process – "the income share of capital" – but, in this case, a decrease in profit requirements (which are the costs of capital in the case of equity) would decrease the measured capital intensity. And if the profit requirements would turn negative (due to e.g. negative interest rates), capital intensity would be negative although capital is still employed. Hence, we *cannot* consider the *income share of capital* to be a measure of capital intensity.

Continued on page **82** ▶

John Kenneth Galbraith identifies a similar problem in measuring capital in financial terms in Thomas Piketty's (2013) "Capital in the 21st century", linking it back to the "Cambridge capital theory controversies" (Cohen & Harcourt 2003) between the "neoclassicals" of MIT in Cambridge, Massachussets (e.g. Robert Solow and Paul Samuelson) and the "neo-Ricardians" at the University of Cambridge, England (e.g. Piero Sraffa and Joan Robinson):

> "Symbolic mathematics begets quantification. For instance, if one is going to claim that one economy uses more capital (in relation to labor) than another, there must be some common unit for each factor. For labor it could be an hour of work time. But for capital? Once one leaves behind the 'corn model' in which capital (seed) and output (flour) are the same thing, one must somehow make commensurate all the diverse bits of equipment and inventory that make up the actual 'capital stock.' But how?" ...
>
> "Then [Piketty] estimates the market value of that wealth. His measure of capital is not physical but financial.
>
> This, I fear, is a source of terrible confusion. Much of Piketty's analysis turns on the ratio of capital – as he defines it – to national income: the capital/income ratio. It should be obvious that this ratio depends heavily on the flux of market value."
>
> "Piketty devotes just three pages to the 'Cambridge-Cambridge' controversies, but they are important because they are wildly misleading."...
>
> "In desperate summary, the case was three-fold. First: one *cannot* add up the values of capital objects to get a common quantity without a prior rate of interest, which (since it is prior) must come from the financial and not the physical world. Second, if the actual interest rate is a financial variable, varying for financial reasons, the *physical* interpretation of a dollar-valued capital stock is meaningless. Third, a more subtle point: as the rate of interest falls, there is no systematic tendency to adopt a more 'capital-intensive' technology, as the neoclassical model supposed."[375]

Piero Sraffa and Knut Wicksell would have agreed with this criticism:

> *"Heterogeneous capital goods cannot be measured and aggregated in physical units; instead, capital valuation must be used, as Wicksell [(1911, p. 149)] told us long ago."* (Cohen & Harcourt 2003, p. 201)
>
> *"What is the good of a quantity of capital ... which, since it depends on the rate of interest, cannot be used for its traditional purpose ... to determine the rate of interest[?]"* (Sraffa 1962, p. 479)

The previous passages in this chapter (1.1.8) should solve Galbraith's and Sraffa's dilemma: No, there is no common unit for measuring capital and labor – but (excluding land) their proportion is *time*. (More on Piketty's theory in "3.1.2.3 'Lack of Growth Increases Inequality' – Piketty's 'r>g Dilemma' Solved".)

375 Galbraith, John K., 2014, "Kapital for the Twenty-First Century?" Dissent Magazine, Spring 2014, cited 21.4.2014, http://www.dissent-magazine.org/article/kapital-for-the-twenty-first-century

During the early phases of industrialization, capital intensity tended to grow as technological progress allowed creating new kinds of machines, which were expensive to construct, but increased the productivity of future labor significantly. However, labor productivity does not always grow with capital intensity. Sometimes making a machine (or learning a new skill) requires more work than it saves.[376] And even if the new machine decreased the need for labor, the costs of the capital (pro requirements of equity and interest paid on credit) mig

376 Even such an investment can be "profitable" if discounting int est rates are negative! If you have "first-work-then-play" preference, y might be willing to build a dishwashing macine, even if it required mo work than it would ever save you dishwashing time.

exceed the savings the investments allow in labor, making the investment not worth it.

Technological progress – e.g. how far processes can be automated – is a major limitation to increasing both labor productivity and capital intensity. However, not all labor productivity-increasing technologies increase capital intensity. Many modern technologies (like web services) allow significant labor productivity increases (which is often hard to measure, as the old and new services are not directly comparable[377]), but are less capital-intensive than e.g. constructing and operating a steel mill. This may be due to requirements of constant updating, maintenance and customer support.

Also, it is noteworthy that high capital intensity is not a completely new phenomenon. As one example, accommodation has for a long time been a capital-intensive "service". Building a house requires a lot of work relative to what is needed for maintaining it. In the case of nomadic tent living, the capital intensity of accommodation is smaller, as tents cost less to produce, but require more constant work in putting them up and maintaining them.

Both labor and capital should be subject to the laws of supply and demand – but unfortunately today capital has a "minimum wage" or more like an "unemployment support" as will be explained in "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash". When there is a lot of willingness to save relative to profitable investment opportunities, the return on risk-free capital – the interest rate on deposits and government bonds – should drop, lowering the profit requirements of all other, more risky investments. This might make it more profitable to choose more capital-intensive forms of production: making investments into more machines if technology allows them or e.g. allowing bigger buffers of materials and goods (emphasizing "agility" over "leanness").[378] On the other hand, lower long-term interest rates (that should result when capital is oversupplied) could also encourage investments into bigger research and development (R&D) projects that create new technologies, as long-term benefits have a higher present value.

If there is a lot of relatively cheap labor available in an industry and capital (in the form of savings and existing productive, real assets) is scarce, it becomes more profitable to choose less capital-intensive forms of production. (However, the substitutability in this direction – e.g. when interest rates rise – is limited, as will be explained.)

People's willingness to save with different returns for their savings determines the "supply curve of capital".[379] As Henry George proclaimed and as will be discussed in "4.3 Eliminating Private Monopolies and (Other) Privileges", in a working market economy, there should be no "conflict" between labor and capital – but rather between monopolies and everyone else.[380]

In a fair market, also the competition ("optionality", as opposed to hostility) is rather between different types of labor[381] than between labor and capital. Some neoclassical (and earlier) theories treated capital as if it were some kind of homogenous, fungible "jelly" or "putty clay" with a continuous, declining marginal productivity and which could be increased or decreased at will in *the production function* (Q = f (K, L), where Q = the quantity produced, L = labor, K = capital (Cohen & Harcourt 2003, p 201)) with changing market interest rates.

> "[J. B.] Clark thinks of capital as a quantum of value 'imputed' in material goods. He strips off everything which may suggest material existence, and retains only a value jelly, existing eternally." (Böhm-Bawerk 1907, p. 280)

This led to the "marginal productivity theory" of the returns on capital.[382] [383] But in practice, the available

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377 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value - The Many Meanings of 'Wealth'".

378 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

379 For how an oversupply of capital essentially is a momentary oversupply of labor, see: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

380 In our current economies, we have developed such a conflict between labor and capital through cartels, see: "3.2.3 Unionization and Strikes" and "2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'".

381 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

382 "With the usual assumptions, like exogenously given resources and technology, constant returns to scale, diminishing marginal productivity and competitive equilibrium, this simple model exhibits what Samuelson (1962) called three key 'parables': 1) The real return on capital (the rate of interest) is determined by the technical properties of the diminishing marginal productivity of capital; 2) a greater quantity of capital leads to a lower marginal product of additional capital and thus to a lower rate of interest, and the same inverse, monotonic relation with the rate of interest also holds for the capital/output ratio and sustainable levels of consumption per head; 3) the distribution of income between laborers and capitalists is explained by relative factor scarcities/supplies and marginal products. The price of capital services (the rate of interest) is determined by the relative scarcity and marginal productivity of aggregate capital, and the price of labor services (the wage rate) is determined by the relative scarcity and marginal productivity of labor (L)." (Cohen & Harcourt 2003, p. 201)

383 "Binary economics" is probably the school of though that takes the misconception of the productivity of capital the furthest. Advocates conclude that, as most of the recent increases in productivity are the result of capital (machines, technologies, processes etc.), an increasing share of income will unavoidably go to capital owners. (Binaries consider both labor and capital to have their own "productiveness".) Hence, the only way to avoid increased inequality, in their view, is to make everyone owners of "wealth-creating capital assets". Their suggestion – "the ownership solution to the flaws of global capitalism" – is to increase *private* ownership (distinguishing it from the Marxist suggestion of *public* ownership of the means of production) by granting people interest-free loans from the central bank to help them make big investments in company equity.

production technologies significantly limit the possible labor-capital mixes (i.e. possible capital intensity).[384] [385]

Also between such available mixes, the short-term elasticity between capital and labor is often very low – especially towards labor:[386] If big investments into production machinery have been made, it might not be worth abandoning them even if very cheap labor were to become available. In most cases, production machinery, R&D and training etc. are so specialized that they can hardly be liquidated[387] (i.e. divested profitably) and the investment costs are therefore mostly *"sunk costs"* (costs that cannot be cancelled or redeemed) in terms of switching to another production technology. For example a paper machine and its components have few alternative uses, and the work put into producing them cannot be undone.

New choices of the labor-capital mix can often only be made when old productive capacity comes to the end of its life cycle (the capital is almost fully "consumed") or demand is constantly rising, allowing for new profitable investments without the opportunity costs of needing to abandon existing capacity. However, when the capital equipment is more generic, such as facilities, commonly used vehicles or versatile, reprogrammable robots, they can be liquidated more easily – by for example selling them for other uses (e.g. to sectors where labor costs or demand rise faster) – allowing more elasticity in the "labor-capital mix" in certain industries.

Distinguishing from the economic concept of "capital", forms of "financial capital" such as company shares and corporate bonds (the ratio between which determines the company's "capital structure") are essentially instruments for allocating the risks and the generated income streams of a business or other bundle of assets to different investors.[388]

A common mental image seems to be that "labor" = "people" and "capital" = "money". And with this view, the idea of capital (money) making a profit (more money) surely seems perverse. This idea is strongly behind Marxism.[389] However, it would be more descriptive to say that "labor" = "activity" (or "effort", which can also be fun) and "capital" = "patience + "risk bearing". And both of these are supplied by people – though often through companies, funds, foundations and other organizational forms.[390] Risk bearing could also be expressed as "responsibility". This statement might sound hilarious in today's world where private financial capital seems to take no responsibility whatsoever over anything. And this observation is quite true. Currently, companies are not held responsible for their actions (including the externalities[391] they cause) and many do not hold enough risk-bearing equity to be able to cover the risks in their ventures (especially those posed on natural resources and ecosystems, and banks that have their credit finance insured for free[392]). And that is something that definitely needs to be fixed – and could be fixed much more easily with the Root Bug fixed first.[393]

Binary economists seem to omit completely that a big part of the compensation for owning capital assets comes from carrying risks. Firstly, not everyone likes assessing and carrying *risks*. Secondly, people making private investments with their "future savings" through interest-free loans would mean huge *leverage* (see: 1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks"). As a result, people who happen to be the owners of failed companies would end up with massive amounts of debt without anything to cover for them. The result, in an evolving market economy would be extreme wealth *inequality*! As if our homeownership paradigm with its subsidies on low-deposit mortgages wouldn't be bad enough already (see: 4.3.1).
Also, binaries (like Marxists and many others) fail to see that, no matter how productive capital assets would be, they can still make a loss, profitably, if people are willing to save even at a loss and interest rates have no zero lower bound. The "impatience component" of the return on capital can turn negative. (Ashford 1994)
– Gurland, Norman, G., 2008, "Binary Economics in a Nutshell", Center for Economic and Social Justice, cited 15.8.2014, http://www.cesj.org/learn/binary-economics/binary-economics-in-a-nutshell/

384 Take for example the process of increasing capital intensity in dishwashing. With minimal capital, you'd have to go down to the lake or river to wash your dishes by hand. Getting some bowls and buckets allowing you to wash them at home would be a first investment reducing needed labor. Then you might get a dishwashing brush or scrub to make washing easier and more effective. Then you might build a plumbing and sewerage system removing the need to fetch water (a fairly big investment). Then you might build a drying cupboard. But after a couple of more of such small improvements, the next step of increasing capital in the mix would be buying/building a dishwashing machine. This technology has only been available for a few decades and, even today, you can't really invest in half-a-dishwashing-machine to save half the labor a whole machine would. And beyond the dishwasher, we might have to wait for household robot servants (filling and emptying the dishwasher) to become feasible investments to further increase capital intensity. Buying another dishwasher does not help, unless the existing capacity is in full use.

385 For the marginal productivity theory in regards to wages of types of labor, see: "Sidenote Box 322A: The Causality Conundrum of 'Productivity': Even the 'Marginal Productivity Theory' Accounts for Scarcity".

386 E.g.: "[A]s the rate of interest falls, there is no systematic tendency to adopt a more 'capital-intensive' technology, as the neoclassical model supposed."
– Galbraith, John K., 2014, "Kapital for the Twenty-First Century?" Dissent Magazine, Spring 2014, cited 21.4.2014, http://www.dissentmagazine.org/article/kapital-for-the-twenty-first-century

387 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability" and "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

388 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks", "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

389 See: "Sidenote Box 118C: Marx's 'Capital' Is Closer to Financial Capital".

390 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

391 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

392 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

393 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks", "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

Sidenote Box 118C: Marx's 'Capital' Is Closer to Financial Capital

Much of the negative taint[394] to the word "capital" can probably be traced back to Karl Marx's famous book by that same name. For a devout Marxist, reading the previous chapter might have caused excruciating emotional pain, with thoughts running along the lines of: "No! My skills and relationships can't be capital! Capital is money looking to accumulate more money. Capital is exploitative! My skills are not exploitative."

And that's the way Marx defined "capital" (K). He considered money (M) to be normally used as an intermediary in selling and buying goods[395] (C, commodities) to acquire other goods, describing this relationship as "C – M – C". Capital, in Marx's terms, is "money which is used to buy something only in order to sell it again" "for a profit" (M – C – M').

In Marx's view, the "social relation" of capital only exists within monetary trade and making a profit requires the "capitalist" to "exploit" the laborer by not giving him the full value of the produce of his labor.[396] (Marx's omission of time preferences and the costs of risk were discussed in the beginning of "1.1.8 Labor and Capital (and Land?) – The Factors of Production".) But as we have explained here, "capital", in the economic sense, is a relevant concept even for Robinson Crusoe stranded alone on an island making decisions regarding the building of shelter, the making of equipment or the sowing of seeds for the next harvest – i.e. regarding investments. His time preference and the expected yield of the investment opportunities available to him should be guiding his choices if he is acting even remotely "rationally".[397] This concept of "capital" is therefore not a "social relation".

Marx's definition of "capital" is very close to that often used in finance and accounting and what is referred to as "financial capital" in economics[398]: the funds that investors give to a company for investment purposes and other operating reserves. "Financial capital" can refer to money that is waiting to be invested and the amount of money that has been invested, or the claims to these investments (mostly their income) through financial assets like shares and corporate bonds. Classical economists also sometimes referred to money as "capital" although they didn't consider money to be a factor of production (as didn't Austrians[399]). Much, though not all, of what we call "real capital" in this book is what Marx would probably refer to as "the means of production". (Marx 1887, p. 117-118)

But as explained in "1.1.8 Labor and Capital (and Land?) – The Factors of Production", even financial capital only needs to make a profit if the investor considers risk to be a cost and even then only needs to make a profit compared to the less risky alternatives available, e.g. keeping one's wealth as money (i.e. one's capital as credit[400]) – which with the possibility of negative interest rates (nominal or achieved through predetermined inflation[401]) might also be expected to make a loss! Capitalism as such would not always require "money to accumulate more money". Sometimes an investment can be profitable (enough) without making a profit at all and, even when investments make profits, the investor can spend more than he earns capital income.

More on how finance is essentially about allocating responsibilities and risks under "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

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394 See: "5.1.1 Our Emotional Attachment to Words".
395 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability".
396 "Capital", Marxists.com Encyclopedia of Marxism, cited 21.5.2013, http://www.marxists.org/glossary/terms/c/a.htm
397 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".
398 "Borrowed sums or equity with which the firm's assets are acquired and its operations are funded."
– "Financial Capital", definition, BusinessDictionary.com, cited 21.5.2013, http://www.businessdictionary.com/definition/financial-capital.html
399 "It is unnecessary to demonstrate that money is not a consumption good [and i]t seems equally incorrect to call it a production good." (Mises 1912, p. 79)
400 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".
401 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?

> "Freedom is the by-product of economic surplus." – Aneurin Bevan, founder of the National Health Service

> "The reality is that owning property does not give you security – it just gives your creditors security. Real security comes from having an income..." – Niall Ferguson, The Ascent of Money[402]

Undoubtably two significant motives for individuals to gather wealth are the economic security and freedom – the "option value" – that having wealth provides. These are likely to be often more significant motives than an increase in one's living standards brought by capital income.

As explained in "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units", products and services have no value unless they are consumed – i.e. enjoyed, used, experienced or otherwise appreciated – by someone. Therefore neither capital nor labor (work) has any absolute value either. Their value, including their capacity to provide security and freedom, is derived from the expected consumption of the goods and services that are produced or could potentially be produced using them.

An example of the value of mere *potential* production is the existence of extra power plants that are only used in the case of an extremely cold winter or other energy shortage. Yet they produce value even when they're not in use by providing a sense of security and reducing risks and thereby facilitating other activities even if such cold winters or shortages never actually occur. This security can produce financially measurable economic value as well by for example lowering insurance costs of things to which an energy shortage can cause significant damage and facilitating investments that would otherwise be too risky (e.g. industries, the processes of which are very expensive to start up and shut down).

You might now argue that having savings of money has value in that it provides economic security and freedom to the person in possession of the savings. We could regard economic security and freedom as added value (or even "services") that any savings (capital) provide simply by being in one's possession, due to their potential functional value or value in trade. Stockpiles of usable goods allow you to consume them later and assets you don't like to consume yourself can have potential exchange value providing you with "liquidity".[403] Georg Simmel describes money as a "neutral good" that is pure opportunity to everything (Aro & Jokivuori 2010, p. 87) – and Alfred Mitchell-Innes would say that it grants the holder "credit".[404] Productive assets – like machinery and facilities – grant the owner more freedom by making it possible to produce better goods more easily in the future.

However, no asset or savings provide economic security or freedom to the owner unless:

- the asset is itself consumable to the owner (value in use, e.g. a storage of tin food), or
- the asset can be expected to be exchangeable for something valuable (value in trade, e.g. money or investment gold), or
- the asset facilitates future production of something consumable or tradeable for the owner (it is a production good, e.g. the above described reserve power plant case or a house one can live in).

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402 3:54:41->, "The Ascent of Money: A Financial History of The World by Niall Ferguson Episodes 1-5", BBC Documentary, viewed 15.3.2013, http://www.youtube.com/watch?v=4Xx_5PuLIzc

403 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability".

404 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

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Along Fisher's definition of capital, these kinds of potential to provide future benefits (Fisher's "enjoyment income") is what makes assets capital and determines their value.

Capital that provides additional production capacity or otherwise facilitates reacting to the realization of risks *does* provide security. A storage of resources that the owner deems useful himself provides economic security, but stockpiles of such capital are not productive, but rather make a loss in real terms due to their storage costs, decay and technological obsolescence, as explained under "1.1.8 Labor and Capital (and Land?) – The Factors of Production". It is therefore important to carefully consider whether the security provided by the products or currently unemployed equipment is worth the costs of holding on to them.

The security and freedom provided by consumable goods acquired for their exchange value is similarly dependent on them maintaining their use value for others – the demand persisting – and supply not increasing too much. However, holding on to credit (including all money in our current monetary system) – others' debt – as an asset provides economic security to the individual on the expense of the economic security of others in the economy: It does not increase total economic security, as holding onto that credit implies that someone else is that much more in debt. On the contrary, an increased amount of credit and other liabilities in an economic system often increases the system's instability and the systemic risks therein. A lot of empirical evidence and research suggest that high amounts of debt in an economic system correlate with instability and the likelihood of economic crises.[405] (Sutherland et al 2012) Also, e.g. holding gold provides security value only if someone can be expected to give something useful in exchange for it.

Therefore, the security and freedom provided by capital does not exist apart from its potential to produce other value. On the contrary, the more one has, the more one has to lose (which is also a form of "insecurity"). Total real wealth in the economy is practically determined by future consumption and the capital intensity of technologies used (natural resources and monopolies are exceptions)[406].

However, gathering capital is not the only – nor the most sustainable way – of increasing one's economic security and freedom. Sustainable economic security can be achieved for everyone without reducing it for others by ensuring that everyone has earning opportunities in the long run, as is explained in "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility". As long as one can be expected to be able to make a living and pay back one's debts eventually, one's current wealth – net value of assets owned – is quite irrelevant in terms of economic security.

The determinants and limits of total wealth (capital) available to possess in the economy are discussed in "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

405 See also: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

406 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

"In the division of the product between capitalists and proletariat everything depends upon the ratio of demand to supply. The capitalist can expect interest on his means of production only as long as demand exceeds supply." ... "If employers of labour were offered money-capital at half the present rate of interest, the yield of every other class of capital would soon also fall to half." – Silvio Gesell, The Natural Economic Order (1916, Part 5, Ch. 6 & Introd.)

"[B]esides the primary and universal requisites of production, labour and natural agents, there is another requisite without which no productive operations, beyond the rude and scanty beginnings of primitive industry, are possible: namely, a stock, previously accumulated, of the products of former labour. This accumulated stock of the produce of labour is termed Capital. The function of Capital in production it is of the utmost importance thoroughly to understand, since a number of the erroneous notions with which our subject is infested originate in an imperfect and confused apprehension of this point.

Capital, by persons wholly unused to reflect on the subject, is supposed to be synonymous with money." ... "Money cannot in itself perform any part of the office of capital, since it can afford no assistance to production. To do this, it must be exchanged for other things; and anything, which is susceptible of being exchanged for other things, is capable of contributing to production in the same degree. What capital does for production, is to afford the shelter, protection, tools and materials which the work requires, and to feed and otherwise maintain the labourers during the process." – John Stuart Mill, Principles of Political Economy (1848, Book 1, Ch. 4, Sec. 1)

"Capital, as we have seen, consists of wealth used for the procurement of more wealth, as distinguished from wealth used for the direct satisfaction of desire; or, as I think it may be defined, of wealth in the course of exchange. Capital, therefore, increases the power of labor to produce wealth: (1) By enabling labor to apply itself in more effective ways, as by digging up clams with a spade instead of the hand, or moving a vessel by shoveling coal into a furnace instead of tugging at an oar. (2) By enabling labor to avail itself of the reproductive forces of nature, as to obtain corn by sowing it, or anima by breeding them. (3) By permitting the divisio of labor, and thus, on the one hand, increasing the efficiency of the human factor of wealth..." – Henry George, Progress and Poverty (1912, p 56)

"The establishment of any new manufacture of any new branch of commerce or of any ne practice in agriculture, is always a speculation from which the projector promises himself extraordinary profits. These profits sometimes are very great, and sometimes, more frequentl perhaps, they are quite otherwise; but in gener they bear no regular proportion to those of oth old trades in the neighbourhood. If the project succeeds, they are commonly at first very high When the trade or practice becomes thoroughl established and well known, the competition reduces them to the level of other trades." – Adam Smith, An Inquiry Into the Nature and Causes of the Wealth of Nations (1776, p. 99-10

1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'

In short:

- *Companies (profit-seeking corporations) are competing organizational forms for achieving certain desired ends and are in a constant battle of survival against each other.*
- *This process of creative destruction mimics the process of genetic evolution so that products and processes can progress without any people needing to starve or die.*
- *Companies don't exist to provide employment. Individual companies aim at maximizing value produced for shareholders, but the whole market "ecosystem" of competing companies exists to maintain optionality and maximize value for clients and employees. This includes reducing disliked effort and other waste and unnecessary costs as much as possible. A lot of misunderstandings and senseless economic policies are supported by the prevailing "fallacy of composition" that confuses the objectives of individual companies with the functions and purposes of corporate competition and other market mechanisms.*
- *Companies need to be allowed to go bankrupt when they fail in their mission, when their products or service become redundant, or with the emergence of organizational forms better fitting the ecosystem and consumers' needs. They also need to be severely punished – with bankruptcy if necessary – when they impose externalities on others (e.g. through environmentally unsustainable activities) or when they break the rules of fair competition. There is no reason to be merciful towards organizational forms out of e.g. empathy or pity. No human being or economic system should be dependent on any single profit-seeking institution.*

> "The essential and defining properties of any system are the properties of the whole which none of its parts have." ... "If we have a system of improvement that is directed at improving the parts taken separately, you can be absolutely sure that the performance of the whole will not be improved." – Russ Ackoff[407]

> "The fragility of every startup is necessary for the economy to be antifragile, and that's what makes, among other things, entrepreneurship work: the fragility of individual entrepreneurs and their necessarily high failure rate." ... "A natural organism is not a single, final unit; it is composed of subunits and itself may be the subunit of some large collective. These subunits may be contending with each other. Take another business example. Restaurants are fragile; they compete with each other, but the collective of local restaurants is antifragile for that very reason." – Nassim Nicholas Taleb, Antifragile (2012, p. 65)

> "Groupishness is generally actually good! A lot of research in social psychology shows that when you divide people into teams to compete, they love their in-group members a lot more and hostility towards out-group members is usually minimal." ... "But cooperation and competition are opposite sides of the same coin. And we've gotten this far because we cooperate to compete." – Jonathan Haidt[408]

> "Of course human groups are nowhere near as cohesive as beehives. Human groups may look like hives for brief moments, but they tend to then break apart – we are not locked

407 4:04-> & 5:27->, "If Russ Ackoff had given a TED Talk...", a presentations in 1994, viewed 16.10.2013, http://www.youtube.com/watch?v=O-qEelG8aPPk

408 4:20-> & 26:00->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

into cooperation the way bees and ants are." – Jonathan Haidt[409]

As explained in "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress", specializing and cooperation have allowed people to improve the productivity of their work significantly and automate parts of production. There are of course many ways in which people can cooperate and many ways to arrange production. Companies are organizational forms that represent different ways of producing goods and services and of people organizing and cooperating around that form of production (e.g. Crowston 1996; Romanelli 1991; Child & McGrath 2001). They are practically evolutionary units in a fierce "natural selection" process that closely mimics the natural evolution[410] of biological life forms.

An individual company's objective is to produce maximal value for its shareholders.[411] And mostly this happens by making *profits* and transferring parts of them to their shareholders by monetary means (i.e. as credit[412]), but the added value need not necessarily be money. For an unlisted company, shareholders can also decide on other values that the company should pursue as ends. However, the taxation systems of many countries encourage rather establishing a non-profit organization for such purposes.

Some countries also allow listing companies as partly-for-profits, for example as "benefit corporations" in some states in the U.S., which allow the company to legally pursue other ends than monetary profits and to discriminate between potential buyers and investors (when raising additional funding) on other standards than their financial offer.[413] This might make sense when an investor wants to both make profits and make certain societal impacts, as this allows avoiding corporate and capital income taxes compared to owning one for-profit corporation and transferring (taxed) income from this to e.g. a separate charity organization.

Publicly listed companies – companies whose stock is traded on a stock exchange – are, in many countries, legally required to only pursue financial profits, and this is something that many activist groups (and for example "The Corporation" documentary) are appalled by and want to change. There is, however, a very good reason for this law: Anyone can buy the shares of listed companies and people's values tend to differ greatly.[414] The most generic way to create value for all shareholders is to transfer it to them as money – generic, liquid credit – which they can then use for whatever ends they wish. If the majority, say 70 %, of a listed company's shareholders suddenly decided that the company should divert its attention from monetary profits to another cause they consider valuable, say, increasing education and general knowhow of GPS systems (they might e.g. also be owners of another company making GPS systems and hence would benefit from the agenda indirectly as increased supply of skilled labor), then the rest of the shareholders, who have no interest in such an agenda, would practically be robbed of their capital – the profit streams they were expecting.[415] The market value of their shares would drop, and reselling the shares, which now are likely to pay smaller dividends in the long run, would prove difficult, as a majority of other investors would likely not be interested in the new agenda.

This is one reason why, even in unlisted companies, it is important to determine in shareholders' agreements how shares can be resold and what kind of majority of shareholders is needed to change a company's priorities and major strategic objectives. And if you only value things in the pursuit of which monetary gains cannot help you (e.g. true love, as the Beatles have declared that "money can't buy [it]"), you really shouldn't invest in shares of listed companies.

Under fair competition, companies need to compete over (1) customers, for whom they try to provide as suitable and valuable goods as possible, and (2) labor, which they try to utilize as efficiently as possible (including making the supplying of that labor as rewarding and fun as possible, i.e. less laborious for the suppliers, employees) in order to produce the maximal profits possible for capital – to be able to compete against other investment options available for that capital. Companies that are not expected to make good enough profits on their capital do not usually receive additional financial capital investments to finance further real investments – and even current investments might be liquidated.[416]

"Profit" is one word that has achieved a very negative taint. But what is it really about? The *added value* the company (or a project or any other activity) produces is the difference between the value created for its customers – and other

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409 14:00->, Haidt, Jonathan, 2012, "Religion, evolution, and the ecstasy of self-transcendence", TED Talk, viewed 13.12.2012, http://www.youtube.com/watch?v=2MYsx6WArKY

410 As the title of a book by Brian Loasby (1991) summarizes, in a market economy, the economic issues of *coordination* and *change* are issues of (a tendence towards) *equilibrium* and *evolution*, respectively.

411 A company's *mission* (or mission statement) usually expresses the way in which it does this – the value it aims to provide for its customers.

412 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

413 "What is a Benefit Corporation", Benefit Corp Information Center, cited 26.6.2013, http://benefitcorp.net/

414 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

415 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

416 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

stakeholders, including employees – minus the value lost in production. Profit is the part of this added value that the company manages to "capture" for itself, i.e. for its shareholders. Profit can be measured for all of the capital involved in the company's operations, a common measure for which is Return on Capital Employed (ROCE)[417]

$$ROCE = Earnings \ / \ TotalAssets$$

or for the shareholders, as Return on Equity (ROE)

$$ROE = Earnings - InterestCosts \ / \ Equity.$$

More on *equity* and balance sheets under "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks" and "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

Any competitively open industry with high profits will attract more investment and competition – similarly to how plentiful energy sources and otherwise attractive habitats attract life forms to fill their "ecological niches" – while industries with decreasing demand see tighter competition and lower profits, which encourage the companies and investors to direct their expansionary investments to other industries and to divest capital in the less profitable industry if possible. Competition pushing down prices and raising wages moves a larger share of the created value to customers and employees.

> "The establishment of any new manufacture, of any new branch of commerce or of any new practice in agriculture, is always a speculation, from which the projector promises himself extraordinary profits. These profits sometimes are very great, and sometimes, more frequently, perhaps, they are quite otherwise; but in general they bear no regular proportion to those of other old trades in the neighbourhood. If the project succeeds, they are commonly at first very high. When the trade or practice becomes thoroughly established and well known, the competition reduces them to the level of other trades." (Smith 1776, p. 99-100)

Without fair and open competition, companies easily emphasize maximizing the *share* of added value that they *capture* – i.e. keeping prices high or wages low (in a monopsonistic employer position) – instead of maximizing the added value they produce by e.g. developing their products, processes and working conditions. Therefore, private ownership and the profit motive are not the most efficient solutions in industries with natural monopolies or high *entry barriers* (i.e. costs or other thresholds for a new player to enter the industry).[418]

An organizational form that isn't the best at providing for any needs of any customer segment dies away – goes bankrupt or ceases operations in another way – as organizational forms performing better take over its share of the market. When a new industry is emerging, often tens or even hundreds of new companies (or divisions in existing companies) are established, but as the industry starts finding its form, most of them disappear: either go bankrupt, merge into other companies or move their focus to other industries or niche markets. Mature industries are often dominated by a handful of players – either locally or globally, depending on what is optimal for that specific industry. In services, benefits of scale are usually smaller than in physical products, which gives less advantage from global consolidation. Of course, successful service concepts spread globally too – often as franchises – and capture significant market shares (e.g. McDonald's and Starbucks).

As said, the ingenuity of this system of ruthless competition is how it mimics the evolutionary process of biological life forms to increase mankind's collective abilities. Practices and structures can evolve efficiently without any human being needing to go bankrupt or starve to death. When companies go bankrupt, the employees can start working for the better performing organizational forms or in completely new industries providing for different needs.[419] This is not only "humane", but also more efficient, as competences and information acquired by individuals in previous attempts are not lost, but can be leveraged to help develop other companies.

It is a very popular trend to blame the world's ills on profit-seeking corporations, to insist that a market economy composed of such profit-seeking entities cannot be sustainable (and always has to grow[420]) and to try to either eliminate this corporate structure or make companies strive for something else instead of profits. Such conclusions result largely from a similar *fallacy of composition* as if one would conclude that natural ecosystems where every individual and species are only concerned for their own survival and maximal reproduction and expansion cannot be sustainable or would always need to grow as a whole. The objective of

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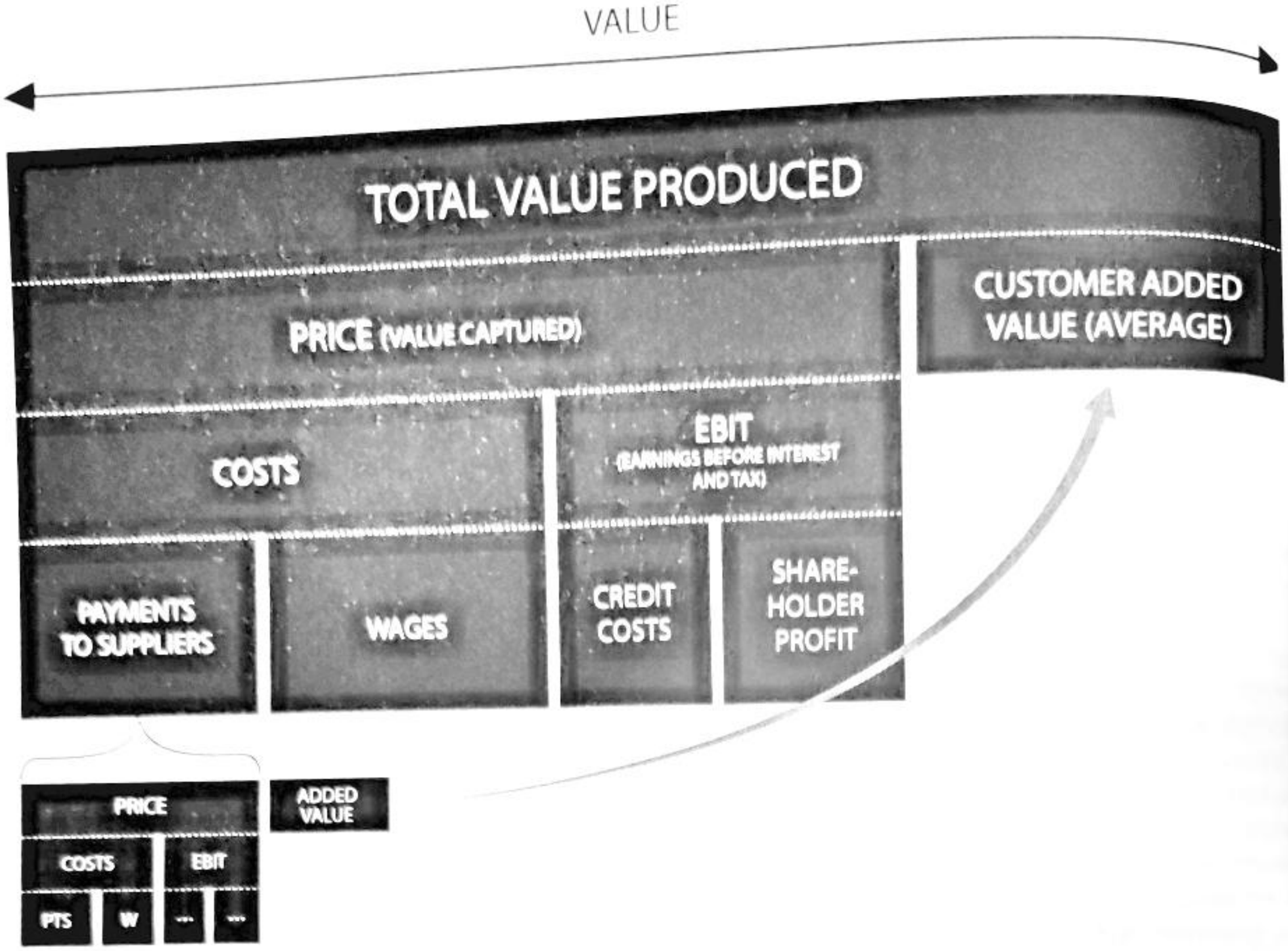
417 "Return on Capital Employed", definition, The Free Dictionary – Financial Dictionray, cited 22.10.2013, http://financial-dictionary.thefreedictionary.com/ROCE

418 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

419 This suggests a potential incompatibility in combining this kind competitive capitalism with a strongly collectivist (Hofstede 1984) culture (typical for Asian nations), where people become strongly emotionally and socially attached and are extremely loyal to the societies and organizations they belong to. However, currently, with labor quantized into jobs and little competition over employees, many people are just as dependent on their employer in Western economies as well (see: "3.2.2 Unfair Income Differences and Limits to Social Mobility").

420 See: "3.1.2.2 'Companies Have to Grow or Die'".



GRAPH 9: DISTRIBUTION OF VALUE PRODUCED BY A COMPANY.

one element is not necessarily the objective, outcome or purpose of existence of the whole system.

For example economist Ha-Joon Chang falls into this trap when arguing that:

> "[t]he worst thing about shareholder value maximization is that it does not even do the company itself much good." (Chang 2010, p. 19)

From an "ecosystem perspective", this is the *best* part about the objective of maximizing shareholder value. The ruthless competition for nourishment and reproductive opportunities (as well as trying to escape predators) in an ecosystem is not "good for" any single rabbit or lion – but it is what keeps the species and the whole ecosystem developing and adaptable to changing circumstances (e.g. a climate change).

Competition is not good for companies themselves, nor their shareholders, but it is good for customers – resulting in better and cheaper products and services – and employees – encouraging better working conditions, more motivatingly organized tasks and responsibilities as well as a productive and enjoyable company culture (*if* there competition over employees[421]).[422]

This also raises the importance of the distinction betwee "pro-market" policies and "pro-business" policies.[423]

421 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility and "3.1.3 Structural, Friction and Classical Unemployment. NAIRU an Hysteresis – Is 5 % Unemployment Really Necessary?".

422 Chang's arguments for why profit seeking is bad for the economy are mostly built around the uncertainty this causes for employees (Chang 2010, p. 18 & 21), which is the result of the Root Bug (see: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with the Will To Spend and Invest") and the notion that this reduces investments (Chang 2010, p. 19 & 21), but avoiding unprofitable investments (ones for which there is insufficient demand) is a very desirable outcome. In his book "23 Things They Don't Tell You About Capitalism", Chang also enlighteningly explains the history of how "the principle of shareholder value maximization" partially emerged to mitigate the agent-principal problem between shareholders and professional, non-owner managers (Chang 2010, p. 17). This issues is discussed in more detail in "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power".

423 Patterson, Sam, "'Pro-Business' or 'Pro-Market'? And What's the Difference?" Economic Freedom, 5th Feb 2013, cited 16.4.2013, http://www.economicfreedom.org/2013/02/05/pro-business-or-pro-market-and-whats-the-difference/

424 Carden, Art, "'Free Market' Doesn't Mean 'Pro-Business'" Forbes, 20th Sep 2010, cited 10.2.2014, http://www.forbes.com/sites/artcarden/2010/09/20/free-market-doesnt-mean-pro-business/

[425] It is often in the interest of individual businesses to restrict competition, while competition is what makes a market more efficient. Business schools especially teach managers how to avoid competitive pressures and achieve lock-in positions with clients, e.g. by promoting high switch costs or demand-side benefits of scale (such as network effects). Michael Porter's "five forces" model (Porter 1979; Porter 2008) – which has been a focal part of business strategy 101 courses for decades – is one example of a framework that allows managers and investors to assess the attractiveness of an industry or market based on how little competitive and bargaining pressure current players, potential entrants, suppliers, customers and possible substitute products pose. This allows identifying market gaps – currently unfulfilled customer needs – but unfortunately also allows developing strategies to limit competition, through e.g. developing a lock-in position.

The "pro-market" vs. "pro-business" distinction is as important as the distinction between nature conservation and animal rights protection. When an invasive rabbit population is disrupting the Australian ecosystem and threatening indigenous plant species, an animal rights activist might object to attempts of controlling the population with the myxoma virus (a sexually transmitted virus resulting in painful death) or the rabbit calicivirus,[426] while a nature conservationist would not eschew such "cruelty" to protect the biodiversity and balance of the ecosystem. In nature, individual animals have no rights. It is not necessarily very constructive to start empathizing with zebras that are eaten alive by hyenas. Similarly, a pro-business politician will promote government intervention to save big companies or protect local industries to e.g. preserve jobs[427] or prevent losses to pension funds and other shareholders, but a pro-market politician considers it part of a "natural" and "healthy" evolutionary processes that incumbent companies are "disemboweled" by competitors or asset strippers,[428] that new companies emerge to take over the markets or that some industries completely disappear from a region.

Actually, because organizational forms and other institutions – just like life forms – are inherently self-preserving and hence almost incapable of rendering themselves unnecessary,[429] [430] almost the only way progress (especially non-linear, disruptive progress) can happen efficiently without people having to die is by institutions rendering *each other* unnecessary. That's what companies are doing, by outcompeting each other into bankruptcy.

So, ironically, companies, in a sense, do the biggest service to society by going bankrupt![431] Ok – maybe that is an overstatement in terms of individual companies, but at least we can say that a market with very few companies going bankrupt (or otherwise ending operations) is not a healthy market. The fragility of individual companies makes the whole economy "antifragile" (Taleb 2012, p. 65-80)[432].

> "The problem is graver than you think: People go to business school to learn how to do well while ensuring their survival – but what the economy, as a collective, wants them to do to *not* survive, rather to take a lot, a lot of imprudent risks themselves and be blinded by the odds." (Taleb 2012, p. 75)

Politicians like to boast with having profitable, long-standing companies in their country and laud ones that provide a lot of (stable) employment. But a situation where few companies go bankrupt and a majority of companies make big profits (compared to the general interest rate) is a signal of a non-competitive and inefficient market[433], which doesn't put much pressure on companies to improve products and processes.

Companies do not exist and are not established to provide employment. The more efficient processes are made, the *less* companies employ labor per unit produced. And the only reason such increases in labor productivity are currently deemed "bad" (by politicians and the general public) is that the remaining work is not allocated optimally, because labor is quantized into jobs, i.e. because the unit of labor is a human being.[434] The competition between companies (the evolution of organizational forms) exists to eliminate waste[435] (i.e. unnecessary work), not to create more work.

A very popular catchphrase nowadays in political demonstrations is, "X[education, medicine, housing etc.] is for people, not for profits". But everything an

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425 Carter, Stephen L., "True Capitalists Are Pro-Market, Not Pro-Business", Bloomberg Opinion, 8th Jun 2012, cited 10.2.2014, http://www.bloomberg.com/news/2012-06-07/true-capitalists-are-pro-market-not-pro-business.html

426 "Rabbit Problems in Australia", Animal Control Technologies (Australia) Pty Ltd, cited 29.9.2013, http://www.animalcontrol.com.au/rabbit.htm

427 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

428 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

429 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

430 This is the nature of ideas in genaral: If you try not to think about the white rabbit, the white rabbit is all you can think about. The way to forget it is to focus on other things of higher interest.

431 The Finnish word for a company or enterprise is "yritys", which originally means "a try" or "an attempt".

432 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

433 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

434 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

435 Pawlik, Greg, "Muda – What is it?" The Toyota System, 17th Mar 2009, cited 10.2.2014, http://www.thetoyotasystem.com/lean_concepts/muda_what_is_it.php

economy does – all its industries and processes – should finally be for people. Even profits should be for people. In considering whether an industry should be opened to competition between profit-seeking organizational forms, the relevant question we should ask is whether such competition in the industry can work fairly so that the profit-motive makes the companies produce more added value to the customers and employees than a publicly owned industry would. High natural entry barriers[436] are one aspect that might make competition work inefficiently. More on this in "4.3 Eliminating Private Monopolies and (Other) Privileges".

Companies should aim to maximize profits. But it is a bit of a fallacy of composition to conclude from this that every employee – or even the top management – should have their minds on profits only. Few companies' mission statements say, "just make money"[437] – and this is not merely a matter of public relations (PR). Just like happiness is best achieved by focusing on other things than trying very hard to "be happy",[438] profits are often maximized by focusing on things like creating an encouraging and fun company culture. Focusing on "grabbing the money" easily leads to a short-termist orientation that is detrimental for things crucial for maintaining a sustainable competitive advantage, such as customer satisfaction and loyalty, a salient brand with strong values and relentless product and process development.[439] [440] But such factors of course depend very much on the characteristics of the industry in question.

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436 Michael Porter (2008, p. 26-29) lists as the main barriers of entry (1) supply-side benefits of scale, demand-side benefits of scale (i.e. network effects), customer switch costs, capital requirements, (5) Incumbency advantages independent of size, (6) unequal access to distribution channels, (7) restrictive government policy and (8) expected retaliation (by incumbent players).

437 "Making money" is in any case a misleading expression for generating revenue or earning an income. See: "1.2.3Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth5.1.2The Misleading Conceptual Metaphor of Money as Items or Substance".

438 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness" and "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

439 Mukunda, Gautam, "The Price of Wall Street's Power", Harvard Business Review, Jun 2014, cited 5.6.2014, http://hbr.org/2014/06/the-price-of-wall-streets-power/ar/1

440 *How* short-term-oriented companies and investors are, also depends on the market interest rate. See: "4.2.3.5 More Long-Term-Oriented Investment and Company Management".

Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution

"A new kingdom rises above the biosphere. Denisons of this new kingdom are ideas because ideas have retained some of the properties of organisms it turns out. They leap from brain to brain. They compete for the limited resources of our attention. They have infectivity. They have spreading power. They are what Richard Dawkins calls the new replicators, born from the primordial soup of human culture. Their vector of transmission is language and electronic communications. And though ideas are not made of nucleic acid, ideas have achieved more evolutionary change and at a rate [that] leaves the old gene panting far behind." – Jason Silva[441]

"Homo erectus made the same tool for 30 000 generations." … "Tools changed slower than skeletons in those days. There was no progress, no innovation." … "Whereas the [computer mouse] is obsolete after five years." … "The [computer mouse] is made from a confection of different substances … and, more than that, it's a confection of different ideas: The idea of plastic, the idea of a laser, the idea of transistors. They've all been combined together in this technology. And it's this combination, this cumulative technology that intrigues me because I think it's the secret to understanding what's happening in the world." … "How does evolution do cumulative combinatorial things? Well it uses sexual reproduction." … "So what sex does [is that] it enables the individual to draw upon the genetic innovations of the whole species." … "What's the process that's having the same effect in cultural evolution as sex is having in biological evolution?" – Matt Ridley, When Ideas Have Sex[442]

"Evolutionary biologists consider humans to be an unevolving species. Some time in the last fifty thousand years, with the invention of culture, the biological evolution of humans ceased and evolution became an epigenetic, cultural phenomenon. Tools, languages, and philosophies began to evolve, but the human somatotype remained the same." … "But technology is the real skin of our species." – Terrence McKenna[443]

"Though our civilization is the result of a cumulation of individual knowledge, it is not by the explicit or conscious combination of all this knowledge in any individual brain, but by its embodiment in symbols which we use without understanding them, in habits and institutions, tools and concepts, that man in society is constantly able to profit from a body of knowledge neither he nor any other man completely possesses. Many of the greatest things man has achieved are not the result of consciously directed thought, and still less the product of a deliberately coordinated effort of many individuals, but of a process in which the individual plays a part which he can never fully understand." – Friedrich A. Hayek, The Counter-revolution of Science: Studies on the Abuse of Reason (1952, p. 84)

Richard Dawkins presented the idea that cultures, ideas and the ways people operate change in a similar evolutionary fashion as life forms do. (Dawkins 1976) He calls the atomic "idea particles" of which cultures,

441 0:19-> & 1:18->, Silva, Jason, 2012, "'RADICAL OPENNESS' – for TEDGlobal 2012", video, viewed 12.7.2013, http://vimeo.com/38260970#

442 2:30-> & 3:26->, Ridley, Matt, 2010, "When Ideas Have Sex", TED Talk, viewed 12.12.2012, http://www.ted.com/talks/matt_ridley_when_ideas_have_sex.html

443 McKenna, Terrence, 1989, "New Maps of Hyperspace", The Vaults of Erovid, cited 12.7.2013, http://www.erowid.org/culture/characters/mckenna_terence/mckenna_terence_maps_hyperspace.shtml

Continued on page 96 ▶

habits, ideologies, institutions, technologies and other behavioral and cognitive patterns are composed "memes", which the Merriam-Webster dictionary defines as "an idea, behavior or style that spreads from person to person within a culture."[444] Nineteenth century German philosopher Arthur Schopenhauer is credited for presenting the idea of life striving to preserve itself before Charles Darwin's theory of evolution, but both Schopenhauer's theory of the world as "will" and ideas as necessarily symbolic "representations" of experienced reality are even more compatible with the evolution of ideas – memetic evolution – than that of biological life forms – genetic evolution. Also Michel Foucault's definition of "power" as something that "is everywhere" and controls people instead of it being a means by which people control each other is related to this perspective.

The evolution of corporations as organizational forms or modes of production is just one subtype of memetic evolution.

Memetic evolution has become by far faster than genetic evolution, and these two strongly influence each other. It is also noteworthy that memes are not bound to acting within specific biological species. People can for example be inspired by the way chimpanzees use tools, the way birds sing or the way swarms and herds organize.

Even more interestingly, the memetic evolution has spread also outside biological realms into drawings, writing and, in the past few decades, into electronic information networks. While writings are a fairly passive realm for memes – despite interpretative mutations that can occur in the coding (writing) and decoding (reading) processes – also computers themselves are able to recombine and refine information into new forms and combinations (with the semantic web opening new possibilities) and are now a significant part of the memetic evolution process.

From a more extreme point of view, we could consider people to be just pawns in the survival battle of ideas – or even more like the medium: the battleground in which they maneuver. No one is born a communist, a Christian, a Rawlsian, a utilitarian, a Kungfu master or Cher fan. We are all "infected" or "infested" with the things we hold dear at some point. People don't fight – ideas do. But unfortunately ideas are often strongly personified by others and even we ourselves tie our identities and self-esteems to certain ideas (this is also notably true for academic science[445]).

And our morality strongly promotes this. How many stories – movies, novels, historical anecdotes etc. – tell us to "stand up for what we believe in" or "never lose faith"? Being dedicated and loyal to ideas is a big part of what is considered our personal integrity, which tends to override any utilitarian calculus[446] when we consider what is right and what is wrong (as discussed in more detail in "The Guilt Economy"). This kind of loyalty of course also serves to enforce trust, which is needed for cooperation.[447] Ideas and ideals – and fighting for "what is right" – are also a much stronger justification for war (actual violent conflict) than e.g. protecting the weak or one's loved ones is.[448]

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444 "Meme", Merriam-Webster, cited 19.4.2013, http://www.merriam-webster.com/dictionary/meme

445 See: "5.2.1 The Personal Nature and Incentive Traps of Academia"

446 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

447 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

448 "Fighting for their country. And for more than their country. Fighting for an idea. The idea bigger than the country. Without the idea, the country might have remained only a wilderness. Without the country, the idea might have remained only a dream." -4:16-> 'Frank Capra's "Why We Fight" World War II Propaganda Series', viewed 1.4.2013, http://www.youtube.com/watch?v=yBUKRAE2O9c "The Last Samurai" is also a good movie to watch with deeper thought.

Continued on page 97 ▶

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One theory suggesting that human behavior is the result of a combination of genetic evolution and cultural evolution is called "dual-inheritance theory" or "gene-culture coevolution". (Feldman & Laland 1996; Gintis 2011) But memetic evolution has undoubtably been a much more significant force in the progress of humanity during the past few millennia than genetic evolution. We could say that genetic evolution has made humans into a superiorly efficient medium of memetic evolution. Potential explanations for human tendencies have also been found through simulating their evolution in evolutionary agent-based computer models. (Choi & Bowles 2007)

The perspective of a world run by institutions and other memetic constructs – rather than by people as active, sovereign agents – is taken further in "5.1.4 Institutional Interests – Rogue Agents without a Principal".

"Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify." – Karl Marx and Friedrich Engels, Communist Manifesto, (1848, p. 7)

"Ten years ago, Peter Senge introduced the idea of the 'learning organization'. Now he says that for big companies to change, we need to stop thinking like mechanics and to start acting like gardeners." – Alan M. Webber, Learning for a Change

"To induce dynamic entrepreneurial competition we require the fulfillment of only one condition: guaranteeing free entrepreneurial entry into any market where profit opportunities may be perceived to exist." … "A discovered income is one gained not by earning or otherwise receiving a share of any given pie, but one gained by discovering the existence of something valuable, the very existence of which was hitherto wholly unknown." – Israel M. Kirzner, The Driving Force of the Market: Essays on Austrian Economics (2000, p. 21 & 22)

"The task of the entreprencur is to select from the multitude of technologically feasible projects those which will satisfy the most urgent of the not yet satisfied needs of the public." – Ludwig von Mises, Planning for Freedom: And Twelve Other Essays and Addresses (1952, p. 117)

"A business will do what it has to do in order to increase its profit, even if it means hurting its home country by shutting plants down, slashing jobs, or even bringing in foreign workers." … "[D]ecisions that are good for individual firms may not be good for the national economy as a whole." … "What is good for General Motors isn't necessarily good for the United States." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 77, 125-126 & 190)

"But what creates great economies is not profit – it's competition." – Hank Green[449]

"The profit motive is a good one if the rules of the industry are properly set up." … "Profit just means that people are paying you more for whatever you're doing than you're spending to create it. That's a good thing. And if that's not the case, then you'll be out of business and rightfully so." – Elon Musk[450]

449 1:47->, Green, Hank, "Hank vs. Hank: The Net Neutrality Debate in 3 Minutes", cited 7.5.2014, https://www.youtube.com/watch?v=m-c2aso6W7jQ

450 42:34->, Musk, Elon, "A Conversation with Elon Musk", viewed

1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks

In short:

- *Legally, companies can be seen as ownership and contract bundles. The assets side of the company's balance sheet portrays what is owned and the liabilities side shows the owners of the bundle.*
- *Shareholders own what is left of the assets after subtracting the company's debts. This remaining part is called "shareholder equity".*
- *Enterprise value – the market value of the whole "bundle" – is determined by the company's profit potential and is often more than the "book value" (value on the balance sheet) of its assets.*
- *A company may file itself bankrupt if it is unable to raise needed additional finance, and creditors can file the company the bankrupt if they fear it cannot carry its business risks and the volatility of its assets with its shareholder equity.*
- *Shareholders and creditors together carry the risks of a company's assets and business operations. Corporate finance is essentially about allocating and pricing these risks. A corporation being a "limited liability company" means that creditors and shareholders are only liable up to the amount that they have invested (not e.g. with their personal property).*
- *Financial assets that don't carry any business risk (cash, bank account deposits, government bonds etc.) are not productive.*

> "[T]he L word, that is, limited liability, is what has made modern capitalism possible." … "Before the invention of the limited liability company in sixteenth-century Europe – or the joint-stock company, as it was known in its early days – businessmen had to risk everything when they started a venture." … "Given this, it is almost a miracle that anyone was willing to start a business at all." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 12)

> "A corporation is thus an investment vehicle, jointly co-financed by debt and equity investors, and operated by professional managers on behalf of the equity investors. Put slightly differently, a corporation is a collection of income-producing assets ring-fenced under a common name, acting as a conduit by which equity investors (shareholders) and debt investors (banks and bondholders) can obtain claims on those. Shares are little slices of ownership." – Brett Scott, The Heretic's Guide to Global Finance: Hacking the Future of Money (2013, p. 40)

From a legal perspective, companies can be seen as bundles of contracts, including ownership rights,[451] employment and (other) supplier relations, debt and credit.[452] Companies themselves don't have any "own property" as such, but are only bundles mediating ownership. This is what the company's balance sheet tells. One side of it contains the company's assets, i.e. everything it "owns" including the credits it has on others – receivables from its debtors.

The liabilities side presents who actually owns these assets. The company's creditors own as much of the assets as the value of the outstanding debts states and the shareholders own the rest – the company's equity. As slightly more descriptive terms, in Finnish, all debts in the balance sheet are collectively referred to as "foreign capital" ("vieras pääoma") and shareholder equity is referred to as "own capital" ("oma pääoma").

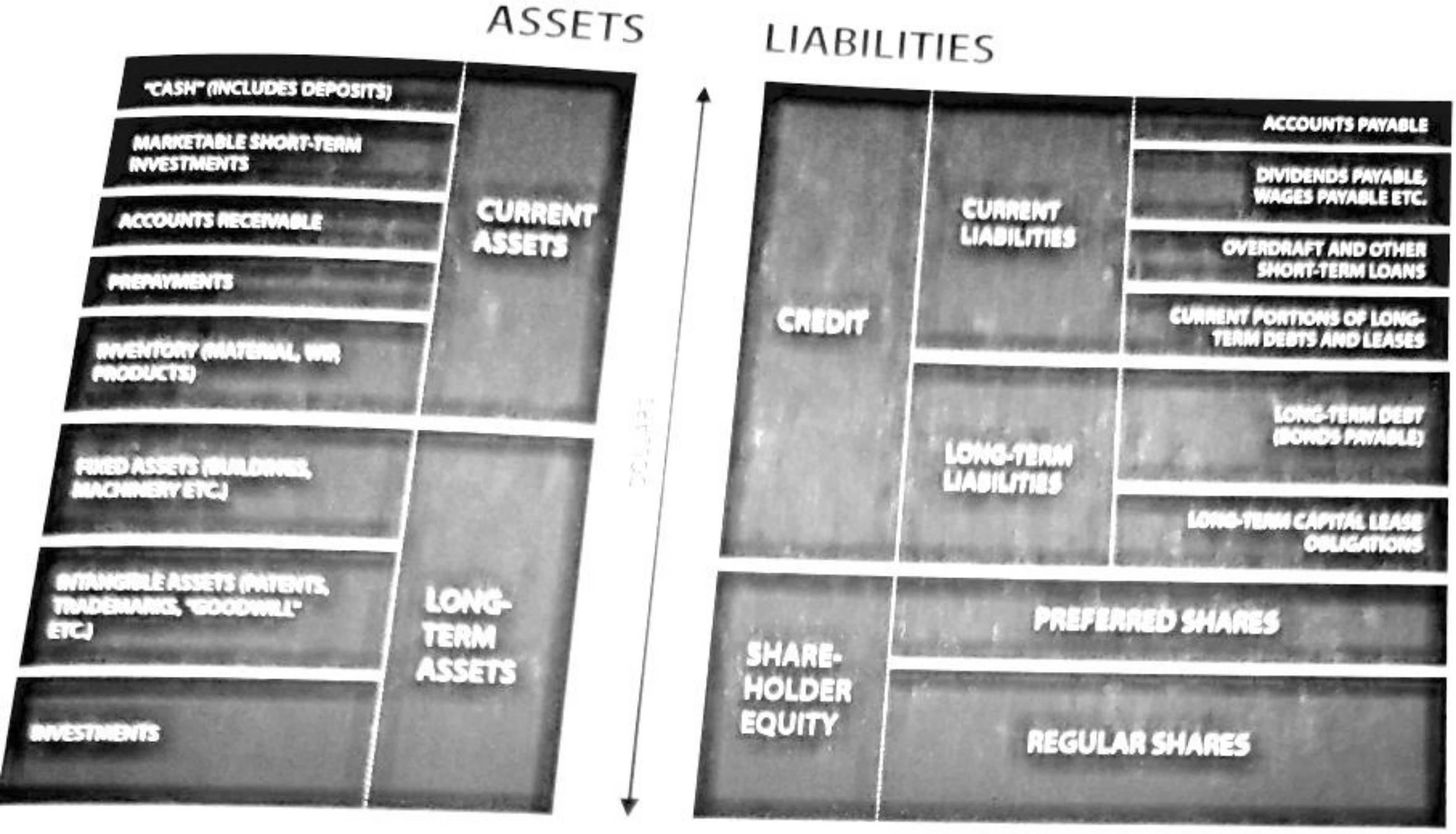
1.8.2014, https://www.youtube.com/watch?v=SE6GF1Y5WHE

451 See: "1.1.7 Ownership as a Bundle of Rights".

452 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

453 "Financial Statements - Balance Sheet Components - Assets", Investopedia, Exam Guide - CFA Level 1, cited 18.6.2013, http://www.investopedia.com/exam-guide/cfa-level-1/financial-statements/balance-sheet-components-assets.asp

454 "Financial Statements – Balance Sheet Components - Liabilities", Investopedia, Exam Guide – CFA Level 1, cited 18.6.2013, http://www.investopedia.com/exam-guide/cfa-level-1/financial-statements/balance-sheet-components-liabilities.asp



GRAPH 10: A SIMPLE COMPANY BALANCE SHEET AS A GRAPH.[449] [450]

the company's owners have granted its staff
o control and manage many of the company's
n many other forms of collective ownership,
shareholders and creditors can't walk into a
d e.g. take its computers any time they want.
owners can decide to sell off the company's
ribute them among themselves.[455]

reason the two sides of the balance sheet
balance is not that "debts always equal
company also has real assets in its balance
e not a "zero sum game". The reason is
ompany's shareholder equity is whatever
s credit liabilities. Equity increases with
ases with losses.

alue of the company – its enterprise value
he "book value" of the assets, i.e. how
n the balance sheet. Enterprise value
the stock market, and the valuations
pend on the expected future profit-
f the company. Just like individual
re commonly valued by discounting
h an appropriate discount interest

as a Bundle of Rights".
ccounting for Debts and Credits and Pricing
al Reserve"".

rate.[457] A company's shareholder equity (and hence its shares) can be valued by making a valuation for enterprise value and subtracting the value of its debts. If the current market value of the company's stock is lower than the resulting valuation and you trust your estimates, you should buy the stock.

If a company's market value is lower than the book value of its equity, that means that either some assets are overvalued in the books or that the whole is worth less than its parts. In the latter case, it might be profitable to cease operations and sell off the company's assets individually. This is called "asset stripping".[458] [459] [460]

457 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

458 "Asset stripping", entry, Investopedia, cited 8.6.2013, http://www.investopedia.com/terms/a/assetstripping.asp

459 Such opportunistic activities tend to have a very bad reputation, as they often "destroy jobs". There are loads of movies depicting such opportunistic businessmen as henchmen of the devil himself, e.g. Edward Lewis, Richard Gere's character in "Pretty Woman" and Gordon Gekko of "Wall Street". But this would not be a problem if it were profitable for employers to share work and there was hence always competition over employees regardless of the total demand for labor: Those employees would soon find work in competing companies or other industries (see: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility").

460 The term "asset stripping" is also used for more fraudulent activities where a company is stripped of its valuable assets, the resulting profits paid out of the company and the rest of the assets and its liabilities are

When the liquidable market value (which book value should quite closely represent) of a company's assets falls – or has a high risk of falling – below its debt liabilities, it usually stops receiving additional credit from lenders and, unless it can raise more shareholder equity, it is considered insolvent, which usually leads to it going *bankrupt* (or e.g. in the UK, "goes into administration" or "liquidation"). Bankruptcy can be filed by either the company itself (the debtor) when it seeks "protection from its creditors" or its creditors when they fear that the company won't be able to restore its solvency and the creditors want to recover whatever they can of their receivables.[461] [462] Even a solvent company might need to file itself bankrupt if it does not have enough cash to meet its short-term payment obligations. Such a situation is called a *liquidity crisis*.[463] However, if banks aren't concerned for the company's longer-term solvency, it should always be able to borrow such liquid assets (money).

In the U.S., a "chapter 7 bankruptcy" refers to ceasing operations and full liquidation (sale) of the company's assets to pay back its debts,[464] whereas chapter 11 arrangements allow the company to continue operating by reorganizing its debts, renegotiating repayment terms and possibly raising additional finance.[465] Chapter 13 describes the equivalent procedure for individual persons.[466]

Most large companies are *limited liability companies*, meaning that the owners' liability is limited to the shares they own and shareholders cannot be held personally responsible for the company's debts or legal breaches.[467] Companies – these bundles of contracts – are also legally liable for their actions and breaches, may enter into contracts, can legally sue other entities and can be sued by other entities. This is what makes them *"juridical persons"* (or "juristic personalities" or "legal entities") – which by no means grants them any human rights or a status as "natural persons."[468]

The invention of this limited liability company structu has been a major development step that has facilitat the progress of market economies in the past centuri Without this structure, undertaking large projects constructing big factories, skyscrapers and ships, taki on risky R&D ventures – would be practically impossib as individual people with enough wealth to make su investments *and* also the willingness to risk losing it are very scarce. (Chang 2010, p. 12) Many technolog would've been left undeveloped, many benefits of sc would've been missed and many trade relationsl unopened. The first major limited companies (or "jo stock companies") were actually established for ris shipping ventures, e.g. the Dutch East India Company, British East India Company and the South Sea Compa of Britain. (Chang, 2010, p.13) Niall Ferguson righ calls "the company" "the single greatest Dutch invent of them all".[469] It is practically what allows the ruthl evolutionary death match between organizational for without needing to sacrifice people with them.

The equity and debts of a company are practica carrying its business risks. This includes the volati (risks of changes in market value) of the company's ass (machinery, buildings, equipment, receivables, IPRs e Managing (pricing, diversifying etc.) the risks of asset the main business of banks (both retail and investm banks) and other financial institutions, and hence volatility of their assets is their main business risk. T includes the default risks[470] of mortgages and other lo in their assets.

One important implication of this is that **risk-f financial assets are not productive in anyway.** Wh banks can leverage themselves – increase their de to-equity ratio – so that risks fall on to governme guaranteed deposits, they are passing risks – which costs – *onto taxpayers* without their consent.[471]

In other words, your money on a bank account is productive, unlike banks like to advertise.[472] What productive for the bank in this case is the governm guarantee on these bank deposits, as that is what carr

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left for liquidation so that creditors are left with the short end of the stick. – "Asset stripping", UK government Serious Fraud Office, cited 24.8.2013, http://www.sfo.gov.uk/fraud/what-is-fraud/corporate-fraud/asset-stripping.aspx

461 "Bankruptcy", United States Courts, cited 8.6.2013, http://www.uscourts.gov/FederalCourts/Bankruptcy.aspx

462 "Bankruptcy", entry, Investopedia, cited 8.6.2013, http://www.investopedia.com/terms/b/bankruptcy.asp

463 "Liquidity Crisis", entry, Investopedia, cited 8.6.2013, http://www.investopedia.com/terms/l/liquidity-crisis.asp

464 "Chapter 7: Liquidation Under the Bankruptcy Code", United States Courts, cited 8.6.2013, http://www.uscourts.gov/FederalCourts/Bankruptcy/BankruptcyBasics/Chapter7.aspx

465 "Chapter 11: Reorganization Under the Bankruptcy Code", United States Courts, cited 8.6.2013, http://www.uscourts.gov/FederalCourts/Bankruptcy/BankruptcyBasics/Chapter11.aspx

466 "Chapter 13: Individual Debt Adjustment", United States Courts, cited 8.6.2013, http://www.uscourts.gov/FederalCourts/Bankruptcy/BankruptcyBasics/Chapter13.aspx

467 "Limited Liability Company", entry, Investopedia, http://www.investopedia.com/terms/l/llc.asp

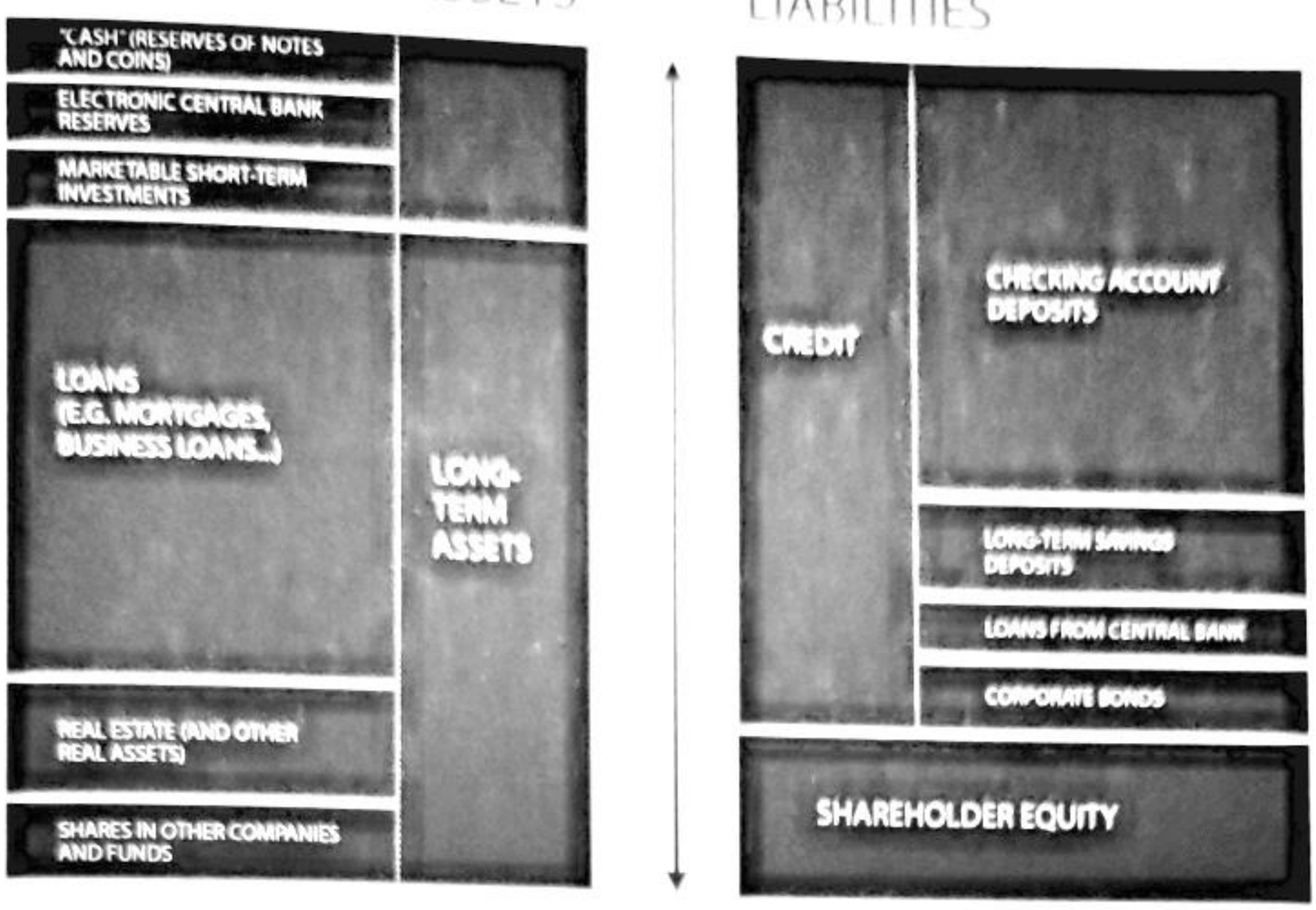
468 "Juridical Person", entry, The Law Dictionary, cited 8.6.2013, http://thelawdictionary.org/juridical-person/

469 1:42:15->, "The Ascent of Money: A Financial History of The Wo by Niall Ferguson Epsd. 1-5 (Full Documentary)", BBC Document viewed 15.3.2013, http://www.youtube.com/watch?v=4Xx_5PuLlzc

470 See: "1.2.2 Credit – Delayed Payment Granting Chronological F ibility".

471 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financializati and Irresponsible Risks in Banking".

472 The only "service" holding risk-free credit provides to the econo is that if others are very eager to spend and borrow, your restraint fr consumption keeps inflation in check by preventing aggregate dema from exceeding supply – you are compensating for others' impatient ti preference. However, when there is an oversupply of capital even w positive interest rates, there is no reason risk-free credit should rece any return. See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Leve And Has Little to Do with the Quantity of Money" and "1.1.8 Labor a Capital (and Land?) – The Factors of Production".



GRAPH 11: A SIMPLE BANK BALANCE SHEET AS A GRAPH.

risks. Although the deposits are "finance" for banks – they form a major portion of the bank's liabilities – you are not financing the bank in which you have your account. The government is.

If you want your savings to be productive, you need to buy the company's stock or give it risk-bearing corporate credit directly. No, banks (contrary to conventional wisdom) do *not* "lend on" that money others have deposited, but instead "create" new money by issuing "loans". So money kept on a bank account does *not* "remain in circulation". This will be explained in more detail in "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".

"Financial capital" is often defined along the lines of "borrowed sums or equity with which the firm's assets are acquired and its operations are funded."[473] But to be accurate, "financing" does not mean "giving money" – but carrying the risks of something.[474] The "capital structure" of a company (and its finance in general) essentially determines how these risks and potential yields are allocated between different investors (creditors and shareholders). For example, an entrepreneur can "finance" a startup company with "sweat equity",[475] meaning working for the company initially without pay. This is just as much investing equity in the company as making a monetary equity investment and then paying oneself or someone else salary out of the company with those funds.

In finance, what matters is *exposure* to risks. Derivatives[476] dealers in investment banks can construct financial instruments that have the most complex kinds of exposures to different kinds of risks and price fluctuations in different asset classes. (Scott 2013, p. 71-74) If you are not exposed to a risk positively – i.e. you don't have "a long position" in it – you are not financing it. As you don't carry your bank's business risks (including bankruptcy risk), you are not "financing" it with your deposits.

Probably the biggest and most disputed issues with "limited liability" are risks involving large externality effects: costs and risks that do not only affect owners and creditors. As companies can be allowed to die and are solely responsible for their actions, they can be used to for example take massive environmental risks (like oil drilling) or even cause significant damage on purpose (e.g. leaking chemicals into rivers) and carry the risk of getting caught.

473 BusinessDictionary.com, cited 21.5.2013, http://www.businessdictionary.com/definition/financial-capital.html

474 In some cases "financing" can also be used to mean "paying for" something (taking on its expenses with no expected return), e.g. when talking about "financing the public sector". (e.g. Korkman 2012, p. 132)

475 E.g. this book is a sweat equity investment by the author.

476 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

A major policy implication or suggestion we can draw from this is that companies should not be allowed to undertake ventures with large externality risks without holding sufficient shareholder equity and risk credit to cover for any potential damages. Alternatively, or perhaps additionally, companies operating in such risky industries should be required to hold insurances (diversified to large reinsurance companies) to compensate for such damages exceeding their own ability to pay them. This would "internalize" a big part of the costs of the risks involved and give firms every incentive to invest in security to minimize their insurance costs.[477] For example construction companies in some countries are required to take such insurances for fixing construction flaws found after their potential bankruptcy, but as these are potential costs to clients and not externality costs, it can be disputed whether this a necessary regulation (or possibly yet another artificial entry barrier protecting the oligopoly of existing construction companies[478]).

It is noteworthy that people are also mortal, and their abilities to repay debts and compensate for damages personally are also limited, and, therefore, without the company institution, individuals could similarly be sacrificed as scapegoats for a larger group's interests – of course the threshold for that might be a bit higher. It would make sense that similar insurance requirements apply to individuals undertaking such risky ventures as well. If the insurance and equity requirements are implemented properly and environmental regulations enforced mercilessly (as they could with the Root Bug fixed[479]), then the corporate structure might even serve to *reduce* the risks of environmental damage due to negligence, compared to full personal liability.

> "As Keynes argues, saving is not finance." – L. Randall Wray (1989, p. 982)

> "A fund may be seeking for productive employment, and find none, adapted to the inclinations of its possessor: it then is capital still, but unemployed capital. Or the stock may consist of unsold goods, not susceptible of direct application to productive uses, and not, at the moment, marketable: these, until sold, are in the condition of unemployed capital." – John Stuart Mill, Principles of Political Economy (1848, Book 1, Ch. 4, Sec. 5)

477 See: "3.4.4 The Nuclear Power Case Example – Are All Risks Adequately Internalizable?".
478 See: "4.3.1.6 Case: Helsinki Metropolitan Region".
479 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land

In short:

- *The main imperfections of an unregulated free market (with unlimited private ownership of everything physical) are (1) unavoidable externality effects as well as (2) the limitedness of some vital natural resources – most notably land, i.e. location – as a result of which not everyone can make a living self-sufficiently.*
- *The private ownership of limited, vital resources always creates an incentive to hoard them, which results in inefficient use and the owners imposing massive externality costs on others.*
- *In a (hypothetical) world where all entities can be perfectly isolated from each other and where everyone has the opportunity to make a living self-sufficiently, a completely free market with only rights to private property and non-violence were protected might work fairly and efficiently.*

> "There is in reality no conflict between labor and capital; the true conflict is between labor and monopoly... Abolish the monopoly that forbids men to employ themselves and capital could not possibly oppress labor... [R]emove the cause of that injustice which deprives the laborer of the capital his toil creates and the sharp distinction between capitalist and laborer would in fact, cease to exist." – Henry George (1949, p. 277-278)

> "Private ownership fails wherever the motive of selfishness of the individual fails, and that usually happens when there is a question of the improvement or protection of the land." – Silvio Gesell, The Natural Economic Order (1916, Part 2, Ch. 3)

> **"I am tempted to call the open economy the 'cowboy economy,' the cowboy being symbolic of the illimitable plains and also associated with reckless, exploitative, romantic, and violent behavior, which is characteristic of open societies. Tile closed economy of the future might similarly be called the 'spaceman' economy, in which the earth has become a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, man must find his place in a cyclical ecological system which is capable of continuous reproduction of material form even though it cannot escape having inputs of energy." – Kenneth E. Boulding (1966)**

Many libertarians – especially "natural rights libertarians" a.k.a. deontological libertarians – believe that a free market based on free contracts and protected private property of anything physical or otherwise occupiable ("homesteadable") is a completely fair system.[480] In their view, there can be nothing unfair when everyone can trade and make contracts freely. If everything was owned by someone, we'd have no "Tragedy of the Commons" either and no transaction externalities: There would always be someone with the motivation to take care of something and preserve its value in the long run and make sure it is used where it produces the most value for the whole population. Even any "governments" securing private property, personal safety and obedience of contracts could – and should – therefore be based on voluntary participation. No "coercive", forced-participation state or democracy would be needed.

Starting from the consequentialist libertarian premise that "everyone should be allowed to do as they please as long as they don't interfere with others' possibilities of doing so", are there unfair income differences or possibilities for extortion in a completely free market of non-violence or are the left (in which many libertarians include almost all other political, economic and moral ideologies) and other "statists" just being selfish, jealous and greedy? Are the greens fussing in vain with their attempts to make governmental regulations when the environment would much more efficiently be protected by private ownership?

Theoretically, in an infinite world where nothing vital is limited and all systems can be isolated from one another, the libertarian assumptions seem valid and a free, unregulated market where only private property is protected and the principle of non-violence is followed would provide maximal positive freedom. This is demonstrated very clearly in Irwin A. Schiff's comic book "How an Economy Grows and Why it Doesn't" (1985).

However, on a limited planet, there are two imperfections that change the game completely and allow people to significantly interfere with others' freedom without direct physical violence or breaching property rights – but with almost logically equivalent causality[481] – even to the extent of manslaughter and beyond slavery. These are:

1. ***Unavoidable and non-isolable externalities:*** On a finite-sized planet, some things are too big and interconnected to be owned privately without unavoidable breaches on others' property – their impacts on other entities and all possible impacts on them simply cannot be isolated completely. The global climate is an extreme example of something too interconnected with many other things for anyone to be able to control everything affecting it and everything it affects and thus fully "own" it and charge rents for using it or requiring compensation for everything possibly influencing it in a way undesired by the owner. A simpler case would be a river. Any activity that affects water flow (e.g. irrigation or building a dam) or quality (e.g. washing things or swimming in the river water) can have externality effects on people living downstream or anywhere on the coast line near the delta region.

2. ***Limited, vital resources, i.e. "land":*** On a finite-sized planet, vital resources are limited: There isn't enough free arable land or fishable water available for everyone to be able to make a living self-sufficiently.[482] In addition to being limited and vital, land and sea areas are not homogeneous, fungible commodities, but instead they are location-specific and thus always have a *local monopoly*. Avoiding the externality effects caused by someone owning (and otherwise restricting access to) large amounts of land within a city would require moving the whole city. The value of land (or rather, location) is largely determined by what is built on *surrounding* land.[483]

Also, for example owning the Baltic Sea (or even just one strait thereof) would give a major transportation monopoly in the whole region, allowing restricting others' activities without the owner incurring any costs himself. Thus, private, unlimited and untaxed land ownership and ownership of other natural resources (that cannot be produced with human labor) also allows imposing

480 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

481 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice" and "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

482 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

483 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

externalities on others, despite the fact that land (unlike the climate) can be isolated by e.g. fencing it.

The first imperfection, externalities, is fundamentally what causes our environmental sustainability issues: Because no one owns the climate or biodiversity as a whole, individuals don't have any incentive to conserve their potential long-term value (for themselves or anyone else) and thus there is a strong incentive to reap maximum short-term profits even on the expense of reducing their productive capacity or destroying them completely. If you wouldn't, someone else would. This is referred to as the *Tragedy of the Commons*[484], a basic game-theoretical example of how competition – or the threat of it – forces us to do harmful things first, just because they *can* be done. Thomas Hobbes was one to note how people will easily attack each other preemptively just out of fear of being attacked themselves – not because they'd be inherently malicious towards each other.

The most radical libertarian views have still to come up with a feasible suggestion for how "private governments" based on voluntary participation and allowing full private ownership of land could solve the ownership of such large entities.

Instead, these kinds of issues can be solved by a central (possibly democratically controlled[485]) government acting as a "common ownership vehicle" for these "too-big-to-own" entities, banning destructive actions and auctioning out sustainable quotas for their use. Such restrictions and trading systems do not work if participation in them is completely voluntary. This is discussed in more detail under "3.4 Environmental Sustainability".

The second imperfection is what makes complete freedom also the freedom to enslave. It should not be surprising that most wars have historically involved fighting over the control of land areas. If everyone always had the option of making one's living self-sufficiently, no such possibility would exist. Such a possibility is an assumption behind many libertarian arguments. In Irwin A. Schiff's comic book, this is the possibility to go fishing by yourself and catching one fish per day – or two if you have invested in a fishing net. Firstly, if there was private ownership of the shoreline, this possibility would not exist. In absence of such private ownership, in reality, increased fishing eventually starts affecting the fish population in the ocean and decreasing the productivity of such work in the near future. Thus anyone with an efficient means of harvesting fish would have every incentive to harvest as much of the fish as possible, as the increased scarcity of fish raises their market price and further increases the value of this person's "savings" of fish. Once again, the fact that it can be done, forces everyone to do so before others do it – just to prevent themselves from starving or being blackmailed. Of course, if one believes it to be fair that the least competitive individuals starve to death every year, despite being almost as capable as others, then there is of course no moral justification for giving everyone an opportunity to earn their living.

A thought experiment of what kind of system would result from completely free private ownership of vital resources – including land – is presented in "6.3.1 Appendix 3: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest".

Let's look at vital, limited resources from the perspective of supply and demand. The price elasticity of the supply of many limited natural resources is close to zero – or even negative in the longer run. E.g. with a fish population, higher prices encourage further overfishing, which depletes the population and its regenerative capacity. The demand for these resources is fairly elastic with low prices because for example land can also be used for other less critically vital purposes than food production, such as more sparse accommodation or production of energy (e.g. biofuels). However, there is a minimum amount of natural resources that is needed to provide everyone with enough food to survive, and locally, e.g. within cities, there is limited accommodation space available, so when land becomes scarce enough due to increased demand, the demand curve turns very inelastic. When land for food production becomes scarce, practically the only limitation for the rise in price is people's ability to earn income. In the case of accommodation within a city, there is some longer-term price elasticity of demand as a result of poorer people moving further from the city center.

When both supply and demand are very inelastic, the prices of these resources in reference to any other goods skyrockets and anyone in possession of these resources can subjugate everyone else to their will.

In short, because of the limitedness of some vital resources needed for making a living – everyone is forced to participate in the common economy in one way or another – if nothing else, they need to work enough for others to be able to buy or rent the land for their farm or piece of shoreline for their fishing profession. This easily causes a situation where people – those without possession of limited resources – have a limited set of options on how to make their living – all of which are dependent on negotiation with owners of these resources. When a person has no options in a negotiation (other than accepting or dying), the resulting price is no longer a result of fair supply and demand. How the lack of alternatives is the root cause of most unfair income differences will be explained in more detail in "3.2.2 Unfair Income Differences and Limits to Social Mobility".

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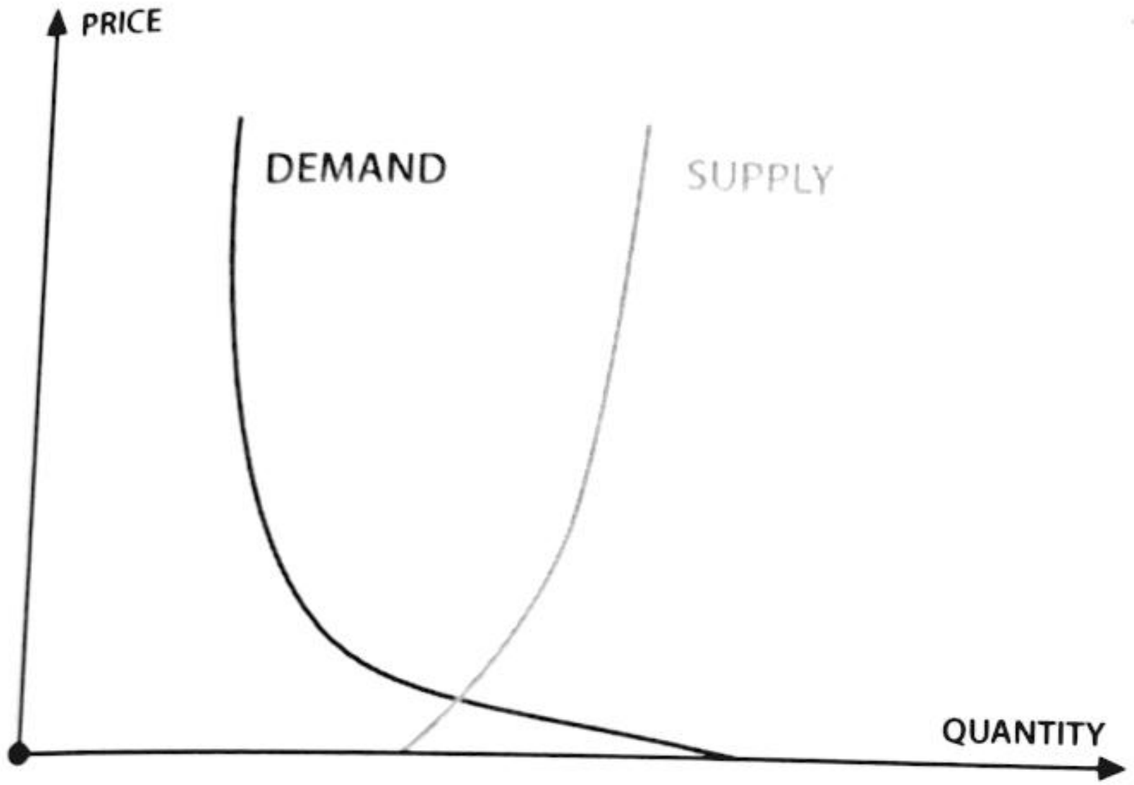
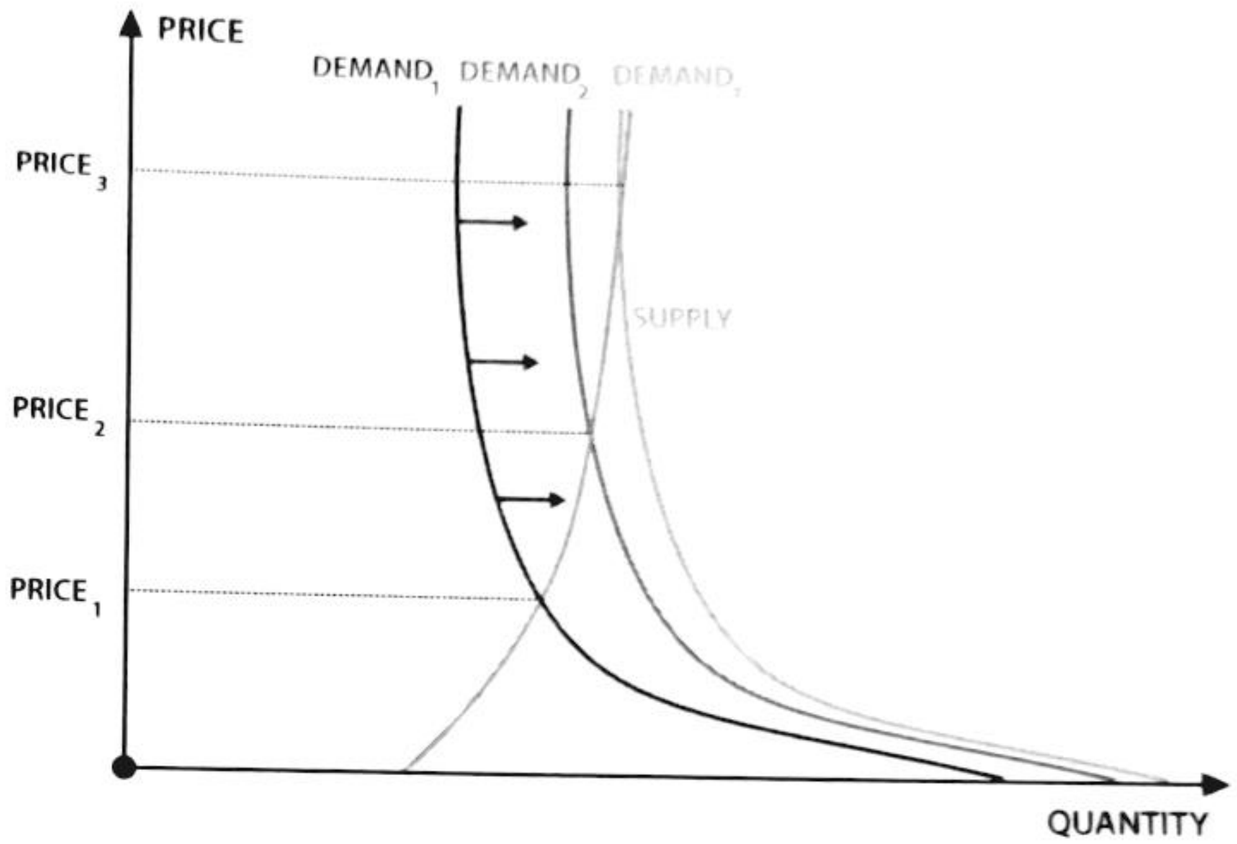
484 See: "1.1.7 Ownership as a Bundle of Rights".
485 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".



GRAPH 12: DEMAND OF AND SUPPLY OF LIMITED, VITAL RESOURCES IN A NON-CRITICAL SITUATION.



GRAPH 13: HOARDING (REDUCING SUPPLY FOR PRODUCTIVE USE) CAUSES THE PRICE OF LIMITED, VITAL RESOURCES TO SOAR.

If there is no state with a "monopoly on violence" – as libertarians like to say – and the power to dictate the currency in use due to its resulting ability to tax, then landowners have an oligopoly and local monopoly on violence and the ability to dictate the currency in use with the ability to charge rent.

1.2 CREDIT, MONEY AND BANKING

"[O]ne of the reasons that our technology is impeded and prevented from feeding the world properly is the failure of one of our networks. It's an information network and it's called money – about which we have the most unbelievable superstitions and psychological blocks..." ... "But money and our psychological attitude to money is a major obstacle to a proper development of technology, enabling it to do what it is supposed to do – that is to save labor, and to produce goods, services and so on adequately." – Alan Watts[486]

"So where economists make the fundamental mistake is they think that money is money." – Rory Sutherland, Perspective is everything[487]

1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability

In short:

- *Liquidity (a.k.a. "marketability", and c to "moneyness") means that something commonly accepted in exchange for oth things available on the market and can sold in large quantities without a signif cant loss.*
- *Having one extremely liquid, fungible and divisible asset – money – in the mar ket tends to facilitate trade by making transactions and the comparison of pric easier.*
- *The "Metallist" story of the birth of mo is that money originally emerged in bar trade out of some homogeneous commo of high value-to-weight ratio. Many eco omists and people still treat and think o all kinds of money as commodities, whi leads to very misleading conclusions.*

"A monetary economy is one for which asse exist whose liquidity premia exceed carryi costs. Those assets that function as money m carry a liquidity premium that exceeds carryi costs." – L. Randall Wray (1993, p. 7)

"Money ... is what we use to pay for things. The basic condition for its effectiveness is that it should be generally acceptable." – Abb Lerner (1947)

So why do we have money? A person for whom I c provide a valuable service might not have anything t value to give back in return. The "you scratch my back I'll scratch yours" principle doesn't work if I don't hap to get back itches or I'm flexible enough to scratch my o

486 12:35->, Watts, Alan, "Money and Guilt", lecture/speech, viewed 16.1.2014, http://www.youtube.com/watch?v=c7tlaF3dv_M

487 2:05->, Sutherland, Rory, 2011, "Perspective is everything", TED Talk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perspective_is_everything.html

But instead he might be able to do something useful to someone else who has something that I need.

In order to make trade of useful goods and services more flexible and possible within a large group of people without strong empathic ties, we'd need some way of transferring value to each other in exchange for goods and services. For this purpose – according to the "orthodox" story or "metallist" theory of the origin of money[488] – some fairly commoditized and fungible good emerges as "money" in almost any society. This becomes the common reference point for comparing the market value of goods and services and allows us to produce value for one person and capture part of it by receiving a payment in this money asset, which he can then use to pay someone else for something we need from them.

The main value of money is its "liquidity", which means that

1. it is broadly exchangeable with many people for many different things, and/or
2. it can be "sold" – exchanged for other assets – quickly even in large quantities without incurring a massive loss for such a "fire sale".[489]

The first aspect (broad acceptability) is crucial in the case of money. But for the liquidity of other assets, in an efficient market with low transaction costs, the first aspect is mostly irrelevant. It doesn't matter *how many* parties are willing to acquire the good if they are willing to buy large quantities of it (their demand for it is very price elastic[490]) with other assets of broader acceptability.

In finance, the liquidity of an asset can be measured as "the trade-off ... between the speed of the sale and the price it can be sold for".[491] "Market liquidity" can also refer to the property of a market: how fast the market *facilitates* the sale of assets without a loss. In the case of a company or investor, "liquidity" refers to the collective liquidity of the assets it or she is holding, often in proportion to its short-term liabilities.[492] [493]

As an example, a paper machine is a very illiquid asset in both senses. Very few parties would find productive uses for a paper machine. In favorable market conditions, with months of careful negotiations you could get it sold for hundreds of millions of dollars, but if you were forced to sell it in a day in an uncertain market situation, you might not be able to find a bidder willing to pay the price of it as scrap metal. Roughly speaking, the broader range of uses an asset has and the more stable and the more price-elastic (and less cyclical) its demand is, the more liquid it is.

An almost synonymous term for "liquidity" is "marketability" which is used by e.g. Ludwig von Mises (1912, p. 32). In some definitions, "marketability" does not take as much of a stance on the price at which the asset can be sold – it merely means that it *can* be sold.[494] A related term is also "moneyness" – how much an asset behaves like money.[495] [496] The slight difference between moneyness and liquidity (in addition to acceptability) is explained in "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

To many economists and in everyday language, money is primarily referred to as (1) "a medium of exchange".

> "Money is nothing but a medium of exchange and it completely fulfills its function when the exchange of goods and services is carried on more easily with its help than would be possible by means of barter." (Mises 1912, p. 21)

Now, this definition might be considered sufficient if, after each "market day", all money was redistributed equally between participants, i.e. it was *only* used and desired for the moment of the transactions. However, money can be saved up for the future. Most commonly this feature is "fixed" by giving money an additional function of being (2) "a store of value". One reason to save up a bigger amount of money is to facilitate making a bigger investment using others' services. For example, you can save up money and then use it to pay others to help you build a house during six months instead of slowly trying to do it by yourself in which case it takes longer and you have to learn all the skills required (and drag the logs by yourself, which might prove difficult). Money is often credited as a significant factor facilitating the division of labor, which has allowed current levels of productivity in our economies.[497]

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488 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".

489 "Liquidity", definition, Investopedia, cited 10.3.2014, http://www.investopedia.com/terms/l/liquidity.asp

490 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

491 "Market liquidity", Wikipedia, article cited 9.3.2014, http://en.wikipedia.org/wiki/Market_liquidity

492 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

493 "Liquidity", Business Dictionary, definition, cited 9.3.2014, http://www.businessdictionary.com/definition/liquidity.html

494 "Marketability", definition, InvestorWords, cited 15.3.2013, http://www.investorwords.com/2963/marketability.html

495 Roche, Cullen, "Understanding Moneyness", Pragmatic Capitalism, 13th Mar 2013, cited 19.9.2013, http://pragcap.com/understanding-moneyness

496 Another, wholly different meaning of "moneyness" is how much an option (or other financial asset) is "in the money", meaning that it would yield a profit if the current market price of the underlying asset would end up being the "strike price" (it's price at maturity). More on derivatives in "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".
– "Moneyness", definition, Investopedia, cited 24.3.2014, http://www.investopedia.com/terms/m/moneyness.asp

497 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

Additionally, as money is used to trade other things, it becomes a reference point for the market value – price – of other goods, (3) "a unit of account" (the term "measure of value" is often also used, but is mostly considered misleading[498]).

To serve these purposes we have to trust that the market value of that money is fairly similar everywhere in the economy and that it can be expected to maintain its market value in the near future. These purposes can, however sometimes start to jeopardize its role as a "medium of exchange" – if it maintains its value too well, it will not be used for trading, but rather as a form of investment. As we will see, the market interest rate – affecting the return for holding "money" – is a significant factor in balancing the supply and demand of current and future goods and services, and how a physical form of "money" maintains its value can set a zero lower bound on this interest rate, forming a crucial macroeconomic limitation.[499]

Other wordings of the functions of money (which e.g. von Mises lists and rejects as unnecessary rephrasings of "a medium of exchange" or downplays in importance in relation to the 'medium of exchange' role) include:

- "Facilitating credit transactions" (practically the same as 'unit of account')
- "A standard of deferred payment" (combination of 'store of value' and 'medium of exchange')
- "Transmitter of value through time and space" (combination of 'store of value' and 'medium of exchange')
- "A general medium of payment" (a "juristical" perspective into facilitating transactions or transferring value)

This "medium of exchange" view of money is easy to accept as the whole truth, as it strongly appeals to the way our languages speak of money: as a substance or items.[500] However, there is another much simpler framework through which one can understand most of the types of currencies that have been used in the past centuries: that money is credit – that it always represents receivable expected future services or goods, from others. And th is how it both facilitates transactions and makes it possib for an individual to store value for the future.

It will be argued that the perception of money as cre offers far better internal coherence and explanatory pow of economic phenomena (than the "medium of exchan and store of value view") and that it would hence much more descriptive to talk about "having mone as a *position* instead of a *possession*. Quite interestin this "commodity money religion" (in which money a commodity and anything else serving as money is fraud), and different forms of the Quantity Theory Money[501] that come with it, are a significant influenci factor behind the convictions of both Marxists[502] a Austrian economists[503] [504], which could be consider politically and ideologically on the very opposite ends the spectrum – at least in what comes to private prope and government intervention in the market.

Before going into this "Credit Theory of Money" in "1. Money as Credit – Real Wealth vs. Virtual/Fiduci Wealth", let's clarify what we mean by "credit". And l emphasize that the Credit Theory of Money does downplay the importance of the concepts of "liquidi and "marketability" or deny that also other assets than currently dominant currency can have "moneyness" a increase liquidity in the economy.

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498 Most notably, the price or "market value" of a good is not a full measure of its value (see: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion").
"Although it is usual to speak of money as a measure of value and prices, the notion is entirely fallacious." (Mises p. 38)
"If in this sense we wish to attribute to money the function of being a measure of prices, there is no reason why we should not do so. Nevertheless, it is better to avoid the use of a term which might so easily be misunderstood as this." (Mises p. 49)

499 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand", "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply" and "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

500 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

501 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – A Has Little to Do with the Quantity of Money".

502 "Money is the commodity whose sole use is for storing value a acting as a means of payment." – "Money", Marxists.com Encyclope of Marxism, cited 21.5.2013, http://www.marxists.org/glossary/term/o.htm#money

503 "A most important truth about money now emerges from our d cussion: money is a commodity. Learning this simple lesson is one of t world's most important tasks. So often have people talked about mon as something much more or less than this. Money is not an abstract u of account, divorceable from a concrete good; it is not a useless token or good for exchanging; it is not a 'claim on society'; it is not a guarantee o fixed price level. It is simply a commodity. It differs from other commo ities in being demanded mainly as a medium of exchange." (Rothbar 1963, p. 5)

504 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austria perspectives".

1.2.2 Credit – Delayed Payment Granting Chronological Flexibility

In short:

- ***Debt is a liability to someone else, the promise of future payment – a service or delivery of something else valuable.***
- ***"Credit" usually refers to the other side of such a contract – being owed things.***
- ***Credit contracts allow chronological flexibility in trade – useful goods don't need to be delivered simultaneously. Like any contract, credit is ultimately based on trust.***
- ***"Lending" and "borrowing" money are very misleading expressions, as "lending money" is actually granting someone credit – carrying the risk of that others' credit default, failure to pay – just like granting someone extended payment time for a product or service.***

The other way to overcome the problem of someone not having something that you appreciate on the spot, is to make a repayment contract – a deal that the person pays you back (delivers you a good or renders you a service) later. This is called *credit*, which is derived from the Latin word "credo", which means "trust" or "faith".

In this kind of contract there is always the debtor – someone who owes something – and a creditor – the person who is owed. The contract dictates what (e.g. service or good) is owed and when it should be paid back. The total amount owed is usually bigger than the service or amount against which the debt was created because the creditor charges *interest* on the debt. Interest can be considered payment for two different costs:

- the utility the creditor loses for receiving the service or good later (time preference)
- the risk of the debtor not being able to pay him back after all (credit default risk).

Notice the resemblance to the attributes determining the value of capital assets?[505] Along Irving Fisher's broad definition of "capital", credit is also a form of capital, as it grants future "real income". (see: Graph 8) However, it is distinct from *real capital assets*, which actually aid in production of goods and services. It also does not increase the total wealth in the economy, as it is always someone else's liability – debt. This will be discussed in more detail under "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

Credit alone of course does not overcome the problem when the situation is that the other person's capacity to deliver something valuable to me specifically is not a matter of time – unless the credit can be traded for something else. And so it can. I can render you a favor on credit, meaning that I receive your promise to pay me back later, and I can then trade that promise – your credit obligation or bond, which, for me, is an asset – with someone else for e.g. a bag of potatoes. The potato seller can then trade that bond further or receive your service as repayment when the debt comes due.

So even from the "medium of exchange" perspective, *credit assets* can function as this "medium" just as well as *commodity assets*. Instead of piling up savings of physical assets before I ask others to help me build the house, I can pay them with my *promises* to pay them back later. This repayment can take the form of either helping them out in return – a service – or a providing them with a good that they need. Such paying with credit is especially useful when the investment allows me to produce these physical goods or services more efficiently, for example when I'm building a mill or a bakery instead of a house for my own comfort. The service I promise to pay the others can be use rights (partial ownership[506]) of the mill or flour or bread that I produce. Also the mill itself can act as collateral – a guarantee backing up value, in case I cannot pay my debt back in the other agreed form.

Let's mention here that referring to extending or granting credit as "lending" and to taking on debt as "borrowing" is quite misleading, as a credit relationship is not the same as borrowing, renting or leasing a specific item – such as a volleyball – from another person, even though that also requires mutual trust. If I borrow or lease my volleyball to you, it is effectively "my volleyball in your use." *Ownership* of the item – most rights to the item in the long-term – still remains with me.[507] Charging a "lease charge" or "rent" for such use is not the same as charging interest on credit. If I render you a service – like a massage – or buy you a beer at a bar on "credit", meaning that we both expect you

505 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

506 See: "1.1.7 Ownership as a Bundle of Rights".

507 See: "1.1.7 Ownership as a Bundle of Rights".

to render a favour (the same kind or another) back later, there is no "my massage in your use" or "my beer in your use" until the repayment of the debt. Even if the beer could be stored, the ownership of the beer would still be transferred to you and the repayment of the debt does not require returning the same specific bottle or pint of beer.

The terms "lending" and "borrowing" are often only used for "such repayment obligation" when borrowing from financial institutions or when otherwise borrowing "money" from someone.[508] And this is yet another manifestation of the misleading conceptual metaphor that we use when thinking of and talking about money.[509] What we call "lending money" is essentially granting credit: agreeing to trust someone's promise to pay (render a service back) later and carry the risk of her not being able to do so. It is not like granting temporary use rights to an *item* you still own.

An electronics retailer granting you extended payment terms until after receiving the appliance, is just as much extending credit as a bank "lending you the money" to buy it. How banking is essentially about managing and pricing the risks of credit contracts is explained in more detail under "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

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508 There are some other instances, such as when "borrowing" salt from a neighbour, but the expression is never used for services: e.g. "borrowing a massage" or "borrowing a haircut".

509 See: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

1.2.3 Money as Credit – Real Wealth vs. Virtual/ Fiduciary Wealth

In short:

- *Being "in possession of money" ultimatel represents expectations of future services or other payments from others – just like credit. A "medium of exchange" is a very misleading expression for money. Attemp (made throughout the past centuries) to separate money into a wholly distinct thing from other credit cause a lot of un- necessary confusion. It is much simpler and more descriptive to regard money as liquid form of credit.*
- *Our current dollars and euros – both as physical cash and "deposits" – are explic itly credit: liabilities mediated by retail banks and central banks and finally bac by the government, making them equall risk-free and hence interchangeable.*
- *Even money represented by a commodit e.g. gold coins, can be regarded as credit. If someone has promised to (or is legally required to) accept it as payment for som thing, that party is the de facto debtor. I trade is conducted with a commodity th no one has a responsibility to accept as payment, then such a commodity money (or any other token of relatively fixed quantity) is practically a constant specu lative bubble. Its "money value" (includi any "liquidity premium") cannot be con- sidered "real value" in the same sense as the use value of consumption and produc tion goods.*

"There is no such thing as a medium of exchange. A sale and purchase is the exchange of a commodity for a credit. Credit a credit alone is money." – Alfred Mitchell-Innes (1914)

> "The community's wealth now has two components: the real goods accumulated through past real investment and fiduciary or paper "goods" manufactured by the government from thin air. Of course, the nonhuman wealth of such a nation "really" consists only of its tangible capital." – James Tobin (1965)

> "Money is credit. It expresses a debt-relation, a promise or obligation, which exists between human beings and cannot be identified independently of its institutional usage. It expresses a *social* relation and will, following Keynes, Minsky and Wray be treated as a balance sheet operation." – Stephanie Bell (2001, p. 150)

> "[M]oney is nothing but book-keeping: It is figures. It is a way of measuring what you owe the community and what the community owes you." ... "Finally, I said: 'The trouble with you gentlemen is you still think money is real.'" ... "It has the same relationship to real wealth – that is, to actual goods and services – that words have to meaning – that words have to the physical world. And as words are not the physical world, money is not wealth. It only is an accounting of available energy – economic energy." – Alan Watts[510]

We can view credit and money as separate institutions (as many of the critics of the "fractional reserve banking" as well as both Austrians and Marxists insist) and only see "credit money" as one monetary option. Or, alternatively, we can expand our conception of the word "credit" – along its original etymology as "trust" – and see all money as credit. In 1914, Alfred Mitchell-Innes presented his "Credit Theory of Money", which rejects the idea that there is any such thing as a "medium of exchange" and suggests that calling gold coins "commodity money" is very misleading.

To put things bluntly, many of the major economic disputes and "paradoxes" can be partly traced back to the desperate, centuries-long attempt to strictly separate money and credit conceptually from each other. Issues would become much clearer and simpler to solve if we just treated money as a form of credit – in both economic models and everyday discussions. This perspective provides very interesting insight and explanatory power into both the domestic price stabilities of sovereign currencies and their exchange rates.

In Mitchell-Innes's terminology, when people provide paid services to others, they always receive 'credit' and buyers always incur debt. This applies regardless of what kind of accounting system – physical cash or paper or electronic balance sheets – is used to keep track of these credits.

> "A credit cancels a debt; this is the primitive law of commerce. By sale a credit is acquired, by purchase a debt is created. Purchases, therefore, are paid for by sales." (Mitchell-Innes 1914)

> "A sale, according to this theory, is not the exchange of a commodity for some intermediate commodity called the 'medium of exchange,' but the exchange of a commodity for a credit.
>
> There is absolutely no reason for assuming the existence of so clumsy a device as a medium of exchange when so simple a system would do all that was required. What we have to prove is not a strange general agreement to accept gold and silver, but a general sense of the sanctity of an obligation." (Mitchell-Innes 1913)

As mentioned in "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability", the value of money – even when it is a commodity like gold – is only for a very small part based on its production costs or its demand for functional uses, but instead mostly on its exchange value – what it can be exchanged for – which is something with which even Austrian economists would agree.[511] In Mitchell-Innes's view, gold coins are merely tokens representing credit. Even when it doesn't directly involve any specific person's explicit *debt liability* to pay something specific for it (as all money in our current credit system does[512]), its value is based on the assumption – trust – that someone will give something for it. The "implicit debtor" (not Mitchell-Innes's term) is whoever has promised to accept the currency as payment for the services or goods she provides. "Credit" – from the Latin word "credo", faith or trust – in this case refers to this trust that it will be accepted as payment for goods and services in the future. If all parties that sell goods (for the acquisition of which you have acquired the currency) stop accepting the currency as payment, you have suffered a "credit loss" – your expected payment is left unfulfilled.

510 16:05-> & 21:23->, Watts, Alan, "Money and Guilt", lecture/speech, viewed 16.1.2014, http://www.youtube.com/watch?v=c7tlaF3dv_M

511 "...money has no use-value at all, but only subjective exchange-value." (Mises 1912, p. 97)

512 See: "1.2.6 Banking: Accounting

Austrian economists insist that gold coins are "commodity money" and that their value as a "medium of exchange" is "real value" and that they are no one else's liability. Ludwig von Mises for example refers to banknotes tied to a gold standard as "money-substitutes" – and sees them as not deserving the name "money" at all. (Mises 1912, p. 53)

Murray N. Rothbard is yet more fundamentalistic towards this framework:

> "A most important truth about money now emerges from our discussion: money is a commodity. Learning this simple lesson is one of the world's most important tasks. So often have people talked about money as something much more or less than this. Money is not an abstract unit of account, divorceable from a concrete good; it is not a useless token only good for exchanging; it is not a 'claim on society'; it is not a guarantee of a fixed price level. It is simply a commodity. It differs from other commodities in being demanded mainly as a medium of exchange." (Rothbard 1963, p. 5)

But as e.g. William Hutt points out:

> "If the work of money is circulation, then money is always 'idle' because transactions are quasi-instantaneous." ... "The transfer [of money] itself occupies a mere moment whilst the services which flow from the possession of money are continuous over time. The essence of all these services is availability." (Hutt 1975)

Von Mises also accepts that money is not only valuable in the transactions themselves.

> "It must be recognized that from the economic point of view there is no such thing as money being idle. ... In fact, since money that is surrendered in an exchange is immediately transferred from the ownership of the one party to that of the other, and no period of time can be discovered in which it is actually in movement, all money must be regarded as at rest in the cash reserve of some individual or other." ... "What is called storing money is a way of using wealth." (Mises 1912, p. 147)

And also Keynes takes note of this aspect of money:

> "One reason for holding cash, ... is to bridge the interval between the receipt of income and its disbursement." (Keynes 1936, p. 195)

Rothbard himself makes it very clear that the need to conduct transactions is not enough to maintain demand and market value for money:

> "Economists err if they believe something is wrong when money is not in constant, active 'circulation.' Money is only useful for exchange value, true, but it *is not only useful at the actual moment of exchange.* This truth has been often overlooked. Money is just as useful when lying 'idle' in somebody's cash balance even in a miser's 'hoard.' For that money is being held now in wait for possible future exchange – it supplies to its owner, right now, the usefulness of permitting exchanges at any time – present or future – the owner might desire." (Rothbard 1963, p. 32)

And interestingly he concludes that (in his visioned commodity money system) uncertainty is the only reason people wish to hold money at all and that, therefore, without economic insecurity, the whole monetary system would collapse:

> "Thus, ironically, if it were not for the uncertainty in the real world, there could be no monetary system at all! In a certain world, no one would be willing to hold cash, so the demand for money in society would fall infinitely, prices would skyrocket without end, and any monetary system would break down." (Rothbard 1963, p. 32-33)

If we really needed a "medium of exchange" to conduct trade, and money was saved just so that trade would be possible in the future, it wouldn't matter *who* held the money until then. Such a need for future trade to happen would not affect *individuals'* demand for holding money. And as the transactions themselves take very little time (especially with today's electronic banking), the *demand for holding money* is not determined by the current amount of transactions, but by people's desire to *postpone* their own purchasing power for the future.

> "Smith's definition of money as being, not wealth, but the 'wheel which circulates wealth,' does not explain the facts which we see around us, the striving after money, the desire to accumulate money. If money were but a wheel, why should we try to accumulate wheels? Why should a million wheels be of more use than one, or, if we are to regard money as all one wheel, why should a huge wheel serve better than a small one, or at any rate a moderate one. The analogy is false." (Mitchell-Innes 1914)

Therefore, instead of "being demanded mainly as a medium of exchange", money is demanded mainly as a "vessel for storing purchasing power", i.e. the holder's claims to future goods and services. And isn't that pretty much "credit" by definition?[513] As said, if monetary tokens were only used during individual "trading days" and they

513 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

were always redistributed evenly after the day was over, *then* we could contend to call such tokens "a medium of exchange".

When gold is used as money, people's main motivation for acquiring and holding gold is their trust in that someone else will give them something useful in return for it later. If other people then stopped taking gold as payment for goods and services and shifted to another currency (silver, furs, grain etc.) or barter, anyone holding gold would suffer a "credit loss" when the market value and liquidity of gold suddenly falls.

Finding one descriptive analogy or framework for a phenomenon does of course not rule out others. It is also possible to consider the behavior of gold coins (or any other "money" of inelastic supply, like bitcoin[514]) from the framework of a commodity. But what does one call a situation where the value of a commodity is largely dependent on the expectation that someone will be ready to give something for it because someone else can be expected to give something for it etc.? A speculative bubble! To the extent that the value of a commodity rises due to it obtaining the status of a commonly accepted "medium of exchange" – with no one under a legal obligation to accept it as payment – that value is "speculative", i.e. not based on any real economic productive potential.[515] Theoretically, the value of any such monetary savings would be wiped out if something else were adopted as a currency. The prospect of competing currencies is discussed under "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

Therefore, in "commodity money terms", we could call the loss incurred by money holders in a currency switch a "speculative loss" instead of a "credit loss".

In practice, such currency switches are very rare because the "entry barriers" into the "currency market" are very high. One reason for this is that usually the government determines the currency used by *accepting* it for settling taxes[516]. And when the government does not dictate the currency, landowners can practically determine the currency used, as everyone has to pay rent, in one form of another (accommodation, work facilities etc.).[517] In such a situation – even without any legal obligation – money is *de facto* credit on landowners, as it facilitates paying rent for accommodation or other facilities.

Even if a commodity currency never lost its "money status" completely, its "money value" is of a very speculative nature. As people's preferences for both holding savings and especially their preference for holding liquid savings – their liquidity preference – can vary quickly and wildly, it cannot be assumed that the "demand for money" would maintain a constant or even linear proportion to the amount of trade conducted or any other real economic factor.[518]

So how does this "moneyness" differ from general liquidity or marketability? As explained in "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability", moneyness emphasizes the *broadness* of its demand, its "acceptability". Another difference is that the marketability of a money-like asset – the demand for it – is not so much based on any use value.[519] A good can be broadly marketable simply because many people have use for it or because its demand is price elastic. For example bread is more liquid than a paper machine because more people have direct use for it. However, even bread is quite illiquid because the price elasticity of the demand[520] for bread is not very high, at least in developed economies. (Even if people got bread for free, they wouldn't consume many times more of it.)

Instead, low-risk, fungible investment assets – like government bonds – are liquid in this "moneyness" sense because they are often acquired only to be sold later. Even if real estate can be a fairly low-risk investment, it is often not as liquid as government bonds or financially traded commodities, as pieces of real estate are unique (not fungible) and hence require more effort to evaluate accurately.

The Credit Theory is hence very much compatible with von Mises's view of money.[521] Von Mises just downplays the importance of the "time aspect" of money (that saving it is postponing purchasing power) and fails[522] to see how

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514 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

515 "When the prices of securities or other assets rise so sharply and at such a sustained rate that they exceed valuations justified by fundamentals, making a sudden collapse likely – at which point the bubble 'bursts'." – "Definition of bubble", definition, Financial Times Lexicon, cited 4.4.2014, http://lexicon.ft.com/Term?term=asset-bubble

516 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".

517 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land" and "6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest".

518 Such a relationship between the amount of trade and the value of money is presumed in the Quantity Theory of Money, see: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

519 If we started considering all marketability or "value in trade" to be "credit", we'd easily end up having to considering all human needs (potential demand) a kind of debt and productive potential a kind of credit. This wouldn't be a completely pointless framework, as e.g. someone needing constant expensive medication or having other such "liabilities" can be considered less solvent than another person with the same amount of wealth and debt. But such a definition would make the concepts of "credit" and "money" even more vague and less useful.

520 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

521 Von Mises makes it clear that money is not a "consumption good" nor a "production good" (Mises 1912, p. 79) and that "...money has no use-value at all, but only subjective exchange-value." (Mises 1912, p. 97)

522 "Money is nothing but a medium of exchange and it completely

this makes "a medium of exchange" a very insufficient description of money.

Many economists who have not quite fully embraced the Credit Theory of Money still agree that money is not "real wealth" in the same way that consumption goods and production goods are. Frederick Soddy referred to the exchange value of money as "virtual wealth" (1926). James Tobin, refers to the value of money as "fiduciary" – dependent on trust – and puts it as follows:

> "The community's wealth now has two components: the real goods accumulated through past real investment and fiduciary or paper 'goods' manufactured by the government from thin air. Of course, the nonhuman wealth of such a nation 'really' consists only of its tangible capital. But as viewed by the inhabitants of the nation individually, wealth exceeds the tangible capital stock by the size of what we might term the fiduciary issue. This is an illusion, but only one of the many fallacies of composition which are basic to any economy or society. The illusion can be maintained unimpaired as long as society does not actually try to convert all its paper wealth into goods." (Tobin 1965, p. 676)[523]

The Credit Theory of Money allows us to assess the reliability, stability and liquidity of a currency along the analogy of a company issuing coupons, vouchers, gift cards or other tokens that it accepts as payment for its goods or services.

> "What is stamped on the face of a coin or printed on the face of a note matters not at all; what does matter, and this is the only thing that matters is: What is the obligation which the issuer of that coin or note really undertakes, and is he able to fulfill that promise, whatever it may be?" (Mitchell-Innes 1914)

First of all, if the company's solvency[524] is threatened – it risks going bankrupt and no longer being able to offer the services it has promised – the gift cards or other credit tokens carry this default risk, and people become less willing to hold these. Hence, their market value drops. Therefore, the realiability of a currency is strongly determined by the (1) solvency of those who have explicitly promised to accept it as payment – preferably as a legal obligation or under some other threat of punishment fo failure to do so.

But as said, "liquidity" depends on how fast larg quantities of the asset can be "sold" (used to buy othe things) without incurring a loss.[525] Therefore, the (stability of the currency is also strongly affected b (a) how flexible the final creditor is at providing large quantities of the services it has promised (or its othe means of gaining credit on others, i.e. gathering back th currency) compared to (b) how much of such liquid cred tokens there is out on the market. If a restaurant issues sells enough gift cards for ten years of full bookings, th gift cards become unstable in value – even if the restaura were fully solvent. As long as people spend their gi cards at a steady pace, their market value remains hig But if more bookings suddenly occur, this might resu in everyone wanting to make their bookings for times soon as possible, and suddenly the restaurant is booke for the next five years. A gift card that cannot be used f anything for five years is not worth much. But as long such a booking rush does not occur – and holders do speculate on such a risk – their value remains fairly high

Now, consider such gift cards or tokens the purchasi power of which are *not* fixed (e.g. ten cards per dinne When there are more tokens in the market, the price a dinner in these gift cards – especially dinners at high desired times – are bid up higher, meaning that t purchasing power of the tokens drops, regardless of t price at which they were originally issued.

This situation is a better analogy for government issue money, as government revenues come more from tax than selling specific services, which makes it difficult f the government to "set" the price level directly. We can se how both excess public debt and increased liquidity in th economy increase general instability and especially risk of hyperinflation:[526] The government's ability to colle taxes is not very flexible (analogous to how a restaura with a fixed number of tables is not very flexible increasing the amount of dinner services it can provide Less liquid public debt (e.g. government bonds with lon *maturity* and public pension liabilities[527]) does not increas instability as much as government-issued liquid mone (liquid credit not backed by any private debt). Similarly, the restaurant wants to issue a large quantity of tokens, could reduce the risk of these tokens losing their value by predetermining an allowed time frame of use for most o

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fulfills its function when the exchange of goods and services is carried on more easily with its help than would be possible by means of barter." (Mises 1912, p. 21)

523 Here, I will have to disagree with Tobin in that human capital – people's skills etc. – is just as real capital as any "tangible capital" like machines if not more so. Machines alone do not do much good for the economy's productive capacity.

524 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

525 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability".

526 With increased debt between private parties, the effect is not the same, as the private "demand for money" – people's desire to work more and save (incl. pay off their debt) – can be increased very quickly by raising interest rates. See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

527 See: "Sidenote Box 325A: Are Retirement Insurances and Pension Saving Schemes or Funds Necessary?".

those tokens and limiting the number of tokens for each time period (e.g. month) below its available capacity.

And this instability-increasing effect of liquid government debt is not changed by how such government issued money is officially marked up in accounting. When a government issues more money and spends it, it is always indebting itself further – regardless of how much debt it writes up in its own accounting systems (Mitchell-Innes 1914).[528] The problem with dreams of "debt-free money" and the risks and difficulties in trying to control inflation with fiscal policies is discussed in more detail under "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'" and "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

How currencies could be defined by what their purchasing power is tied to and what (or who) backs up its purchasing power is discussed under "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

The "medium of exchange theory" (that money is a commodity of high marketability that facilitates trade) and the Credit Theory of Money (that money is receivables – i.e. expected future favors – even when it is represented by a commodity) are two frameworks for what money is and how it functions. As explained in "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources", a market economy is largely determined by (1) how ownership (rights to objects[529]) is defined and enforced and (2) how credit contracts can be formed and enforced. The "medium of exchange" theory could be said to define money in terms of property rights and the "credit theory" in terms of credit contracts.

If one insists on considering money a commodity with its own supply and demand, we can consent to using such vocabulary. But then we have to understand, that:

- in a credit money system like the one we have now, the main "demand" for such money (people's willingness to work for it) does not come from the amount of trade, but the need to repay outstanding debts that have "emerged" as the banks have "created" that new money,[530] and on the other hand that
- a "commodity currency" (the supply of which is inelastic and which is not marked explicitly as someone else's debt) is practically a constant speculative bubble, and it is therefore not a very stable basis for savings – and especially not a safe reference point for one's debts.[531]

> "A fluctuation in the measuring rod of value does not alter in the least the wealth of the world, the needs of the world, or the productive capacity of the world." – John Maynard Keynes, A Tract on Monetary Reform (1923, p. 32)

528 "A government dollar is a promise to 'pay,' a promise to 'satisfy,' a promise to 'redeem,' just as all other money is." ... "A dollar of money is a dollar, not because of the material of which is made, but because of the dollar of tax which is imposed to redeem it." (Mitchell-Innes 2014)

529 See: "1.1.7 Ownership as a Bundle of Rights".

530 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

531 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral" and "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'

In short:

- *People tend to justify the existence of things and determine their functionality and purpose based on their history – the stories told about them, especially their origin.*
- *The "medium of exchange theory" and the "credit theory" of money are supported by the "metallist" and "chartalist" theories of the origin of money, respectively.*
- *According to the "metallist" theory, money emerges out of barter spontaneously, whereas 'chartalists' insist that the creation of money always involves the acceptance of another party's debt and that often an authority – like the state – has dictated what is used as a currency.*
- *There is surely historical truth to both theories – but one cannot draw any final normative conclusions from such stories.*

> "[T]he creation of money involves the acceptance of another's debt." … "In this case, private individuals agree to hold the debt of the State, and the State's currency becomes money." – Stephanie Bell (1998, p. 5)

> "[Money's] transformability into gold and the guarantee of this possibility of gold backing or any other kind of backing) are nothing but historical accounts of how acceptability came to be established in certain cases. These were probably the only ways in which general acceptability could be established prior to the development of the well-organized sovereign national states of modern times." … "But if general acceptability could be established in any other way these historical methods would no longer be necessary or relevant." – Abba P. Lerner (1947, p. 313)

Now, it is important to distinguish between:

- how something has emerged (or from where originates)
- the essence and nature of what it is (how it functio and "behaves") and
- the purposes which it currently serves (and f whom).

We humans have a strong tendency to justify thin using their history – the stories told about them. F even if something emerged due to a cause, it does n mean that that is what sustains its existence current Even if something originally emerged in one form, does not mean that that would be its form forever. Ev if something was created for a purpose, it does not me that that is the purpose it serves (for anyone) curren And it might serve different purposes for different part

Just as "Hume's Guillotine" says that "there is no ou from is", there is also no final *is* from *was* or a *why* fr *how*. Religions are not the only institutions relying on power of stories to justify current practices and val or their own existence – nor the only emblems of human tendency to assume that there has to be so kind of rational purpose, reason or intention behind occurrences[532] and that anything used for a purpose to have been made for that purpose (a line of thou strongly behind e.g. the theories of "Intelligent Design"

The two theories of the essence of money are simila strongly supported by two different theories of the *ori of money*. The "metallist theory" (Bell 1998, p. 1-4) – "orthodox story," as L. Randall Wray calls it (1993, p – says that money has emerged out of barter – that so good naturally gains marketability and starts serving role of a medium of exchange. Rothbard even insists t this is the only way money can emerge:

> "This process: the cumulative development of medium of exchange on the free market – is the o way money can become established. Money cann originate in any other way, neither by everyo suddenly deciding to create money out of usele material, nor by government calling bits of pap 'money.'" (Rothbard 1963, p. 15)

532 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culp

For e.g. Rothbard and von Mises, this story is a good enough reason to insist that money has to behave like any other commodity in a market and has to be treated as such in any economic theory (even though von Mises himself insists that people do not base their judgments on how situations have originated.[533])

The competing theory of the origin of money is the "chartalist theory." And so strong is the dichotomy between the two that the "chartalist theory" is also referred to as the "anti-metallist theory" (Bell 1998, p. 2). Chartalism sees money rather as *tokens* (Latin *charta*) of credit and says that money emerges when a token is accepted to represent another party's debt:

> "[T]he creation of money involves the acceptance of another's debt." (Bell 1998, p. 5)

The chartalist theory, where money is determined – "created" – by the state is also called the "state theory of money", and was presented most explicitly first by Georg Friedrich Knapp in his 1905 book "The State Theory of Money" (1924). When individuals are obliged to pay taxes to the government and the government *accepts* the payments of those taxes in a currency, individuals will start accepting that kind of currency as payment for other things, as they know that the currency will allow them and others to pay their taxes and it will hence continue having value.

> "In this case, private individuals agree to hold the debt of the State, and the State's currency becomes money." (Bell 1998, p. 5)

> "It is true that a simple declaration that such and such is money will not do, even if backed by the most convincing constitutional evidence of the state's absolute sovereignty. But if the state is willing to accept the proposed money in payment of taxes and other obligations to itself the trick is done. Everyone who has obligations to the state will be willing to accept the pieces of paper with which he can settle the obligations, and all other people will be willing to accept these pieces of paper because they know that the taxpayers, etc., will accept them in turn." (Lerner 1947, p. 313)

This view was also endorsed by John Maynard Keynes in his "A Treatise of Money" (1930) and even Adam Smith – although a major culprit in the entrenchment of the "metallist myth" (Mitchell-Innes 1913)[534] [535] – accepted similar powers of governments to determine what would be used as money.[536]

Note that it need not be *compulsory* to pay taxes in this currency.[537] It is enough that taxes have to be paid (at all) and that they *can* be paid in the currency in question.

> "In an economy where government debt is a major asset on the books of the deposit-issuing banks, the fact that taxes need to be paid gives value to the money of the economy . . . the need to pay taxes means that people work and produce in order to get that in which taxes can be paid" (Minsky 1986, p. 231).

> "The issue of money is not an exclusive privilege of government, but merely one of its functions, as a great buyer of services and commodities. Money in one form or another is, in fact, issued by banks, merchants, etc." (Mitchell-Innes 1914)

If the government were to also accept goods as payments for taxes and would then sell these for the currency, it should only make the base for the currency stronger as it would have direct purchasing power beyond just paying taxes.

One of the most commonly cited economists viewing money as a debt relation – a "two-sided balance sheet operation" (Bell 1998, p. 6) – is Hyman Minsky.

> "Everyone can create money; the problem is to get it accepted." (Minsky 1986, p. 228)

Aside from the state theory of money – following Mitchell-Innes's analysis 100 years ago (1913) – David Graeber, in his recent book "Debt: The First 5,000 Years" (2013), made an expansive case that credit money was more widely used before any gold coins and that metal-standard

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533 "Acting man does not look at his condition with the eyes of a historian. He is not concerned with how the present situation originated. His only concern is to make the best use of the means available today for the best possible removal of future uneasiness." (Mises 1963, p. 480)

534 "Broadly speaking these doctrines may be said to rest on the word of Adam Smith, backed up by a few passages from Homer and Aristotle and the writings of travelers in primitive lands. But modern research in the domain of commercial history and numismatics, and especially recent discoveries in Babylonia, have brought to light a mass of evidence which was not available to the earlier economists, and in the light of which it may be positively stated that none of these theories rest on a solid basis of historical proof – that in fact they are false." (Mitchell-Innes 1913)

535 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

536 "A prince, who should enact that a certain proportion of his taxes should be paid in a paper money of a certain kind, might thereby give a certain value to this paper money." (Smith 1776, p. 268)

537 E.g. many fans of Austrian economics insist that the only reason people use our current "fiat money" is that it has a government-dictated monopoly position. Also Marc Lavoie, in his analysis of neo-chartalism misunderstands that taxes would *have to* be paid in that currency. "...it enforces this decision by its power to tax people and to require payment in the currency of its choice." (Lavoie, 2011, p. 3).

money replacing credit money has been a big cause of our economic problems.

Why is the distinction between the *origin* of money and the perception of the *nature* of money important? Even if we would find historical evidence for money having emerged in some societies from barter (the "metallist story"), we can still model the emerged currency and analyze its behavior as a token of credit – expected future goods and services from others. On the other hand, even if one considers money to be "a creature of the state" (Knapp 1924) and a token that doesn't necessarily have any intrinsic value, one can still see such tokens acting as a "medium of exchange" and expect them to behave like a commodity. This latter perspective is present in many current activist groups that demonize the "fractional reserve banking" system (which is an outdated name) and want to put the money supply under direct "democratic control."[538]

The extent to which money is perceived as a commodity varies. For example New Keynesians (e.g. Paul Krugman and Joseph Stiglitz), who support state dictated money and are opposed to gold standards, are still stuck with the IS/LM models that assume a rather inelastic supply of money.[539]

Even if the nature and origin of coins of precious metals can be debated, the credit money system in place today is very explicitly "a balance sheet issue", as will be explained in more detail under "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" – and this nature of our current monetary system is not changed by any story of banks having emerged when goldsmiths started providing storage services for gold.[540]

538 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

539 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

540 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral

In short:

- *Even when the value of money is tied to a commodity (e.g. under a gold standard) it is easier to exchange contractual claims to the commodity (e.g. give banknotes or transfer bank account entries) rather than carry the commodity itself (pieces of gold or gold coins) around.*
- *Credit contracts – and all financial instruments – are practically defined by what the value of the contract is tied to – the "reference resource" – and what backs up the payment promise – the "collateral".*
- *Similarly, a currency is practically defined by what its value is tied to and what backs up its value.*
- *It makes no sense in terms of risk management to tie the value of your savings and/or debts to a single commodity – least of all one of largely speculative value, which any commodity that has achieved "money status" would be.*
- *The value of our current credit money is tied to general living expenses by the central bank's promise to keep inflation stable and it is backed up mostly by real estate and individual private debtors' ability to earn income as well as the government's ability to collect taxes. This makes it as close to a "risk-free investment option" as possible and could (with a better taxation model and more adaptable real economy) make it a very robust base for a currency.*
- *Time banks are credit currency systems just like our current euro and dollar systems – only with price mechanism*

limitations.

- ***Bitcoin can never stabilize, as it is essentially a "commodity" of purely speculative value – and an interesting crossbreed between a pyramid scheme and Ponzi scheme (though the technology has interesting potential for other uses).***

> "Everyone can create money; the problem is to get it accepted." – Hyman Minsky (1986, p. 228)

> "The value of credit does not depend on the existence of gold behind it, but on the solvency of the debtor." ... "The monetary unit is an abstract standard for the measurement of credit and debt." – Alfred Mitchell-Innes (1914)

As chartalist views (of the origin of money) and the credit theory of (the essence of) money are controversial red cloths for many, let's set them aside for a while. The "chartalist" and "metallist" stories of how money emerges into a society need not rule each other out, as both barter and credit-based trading probably have existed for millennia.

As mentioned in "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability" – regardless of whether you see money as "a medium of exchange" or "a token of credit" – money does not need a central government to emerge, but tends to emerge in any society – even when it is illegal. For example cigarettes often become "money" in a war frontline or prison environment – and these phenomena give some credibility to the orthodox theory of money as having emerged out of barter. Goods ending up serving as "money" are often very fungible (homogeneous in quality) products for which someone – and often many – in the system are ready to provide favors or exchange other goods. The government of the communist Soviet Union eventually ended up having to enforce death penalties for "economic crimes" in its futile attempts to suppress the emergence of private trade, which was cannibalizing people's participation in government-dictated work.

In the absence of a reliable legal system or other credible social contract enforcing the repayment of debts and thereby maintaining the value of credit, commodities with at least some value in use to some participants of the economy can be a more reliable basis for money – furs and salt as prime examples. (Samuelson 1973)

Alfred Mitchell-Innes (1913) strongly criticized how easily Adam Smith's speculations (quote below) seem to have turned into factual history. However, Smith's theory strongly appeals to "common sense" (partly because, in our languages, money is a "thing"[541]):

> "Many different commodities, it is probable, were successively both thought of and employed for this purpose. In the rude ages of society, cattle are said to have been the common instrument of commerce; and, though they must have been a most inconvenient one, yet in old times we find things were frequently valued according to the number of cattle which had been given in exchange for them. The armour of Diomede, says Homer, cost only nine oxen; but that of Glaucus cost an hundred oxen. Salt is said to be the common instrument of commerce and exchanges in Abyssinia; a species of shells in some parts of the coast of India; dried cod at Newfoundland; tobacco in Virginia; sugar in some of our West India colonies; hides or dressed leather in some other countries; and there is at this day a village in Scotland where it is not uncommon, I am told, for a workman to carry nails instead of money to the baker's shop or the alehouse.
>
> In all countries, however, men seem at last to have been determined by irresistible reasons to give the preference, for this employment, to metals above every other commodity." (Smith 1776, p. 26)

Items made out of gold have historically had symbolic value due to their aesthetic qualities and rarity. According to the metallist theory of the origin of money, the precious metals gold and silver became dominant currencies, as they were commodities of very equal quality and high value-to-weight ratio (due to their scarcity and thereby high production costs – not so much due to any functional value). They could also easily be struck into coins, the quality and mass of which were easy to verify allowing trade without the need to carry scales around. Coinage can be dated back at least to the 6th century BC in Greece. (Mundell 2002, p. 2) The liquidity value brought by the status of a primary currency then further increased the value of gold.

Let's now, for the fun of it, assume that this metallist story is the whole truth.

According to this metallist story, banking emerged as people were annoyed by the inconvenience and risks of carrying physical gold around with them and rather kept their money stored as "deposits" with goldsmiths. A depositor would have an account, which stated how much of the gold in the bank belonged to the depositor.

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541 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

instead of physically handing over coins or bullion, one could then just write checks – orders to transfer gold from your account to that of another. The other options would be that instead of an account, you held deposit receipts that could be exchanged for gold at any time in the bank. You could then use the deposit notes for trade just as you would coin money. And such receipts are said to be the origin of banknotes used as cash.[542]

A banknote that is by law or contract directly convertible to another good is often called *"representative money"*. (Mundell 2002, p. 11) Most reserve currencies in the Western world are no longer representative currencies in this sense. The U.S. dollar was detached from the "gold standard" in the beginning of the 1970s. Keynes used the term "representative money" for all types of moneys "the intrinsic value of the material substance of which is divorced from its monetary face value". (Keynes, 1930, p. 3 & 214-216) To avoid confusion with the earlier, more specific definition, in this book, we'll refer to all currencies which are not physical commodities with intrinsic value in use, but the value of which is based purely on a (social) contract (an implicit or explicit one) *"contractual currencies"*, regardless of what they have as collateral and what kind of accounting systems[543] – e.g. pieces of paper or numbers in an electronic systems – are used.

It is common to call those contractual currencies that are not representative currencies – i.e. that are not legally convertible to a fixed amount of another good – "fiat money" according to the Latin word meaning approximately "let it be done". There are various definitions for the term "fiat money." For example we can call any governmentally dictated "legal tender" "fiat money." On the other hand, e.g. Ludwig von Mises defines "fiat money" as money demanded only for itself and not representing an explicit claim against any person (physical or legal), and suggests that "actual fiat money" possibly has never existed (at least before the early 20th century).[544]

The whole idea of "non-sound" fiat money and the expansion of credit are often blamed for much of the credit crises we are facing and framed a "big fraud", "pyramid scheme" or "Ponzi scheme". What many activist groups – surprisingly equally on both the left and the right – consider especially twisted and perverted, is that our current "fiat money is created out of debt" – or "out of nothing" (ex nihili).[545]

Before you jump on this demonizing train with them, let us explain how our current credit money system is no more a fraud than a gold standard currency or time banking system and, with small changes, could be a much more useful and stable basis for keeping accounts of savings and debts and a handy tool for transferring market value to facilitate exchange. The perverted thing is not that "money is debt", but how emotionally attached to money and the idea of its intrinsic, "absolute value" we have become.[546]

When a credit contract is made – or any financial instrument created – the parties need to agree on:

- *When* the payment will be made, i.e. the date of *maturity* (which can also be flexible).
- The *type* of good or service in which the repayment will be made.
- The *amount* of the good that will be paid, i.e. the *face value* of the debt. (This often includes interest, which can be set to depend on the time of repayment if that is flexible. Also the repayment sum may be tied to a different resource than the resource in which the repayment is concretely required to be made.)
- What is used as *collateral* – what the creditor can claim if the loan cannot be repaid in the form originally decided.

Not all debts have something physical as collateral, but the only guarantee of the debtor's ability to pay back the debt might be his ability to earn income – obtain credit on others. This ability can also be considered a type of "collateral". When another person guarantees the debtor's debt, that person's ability to earn income serves as additional collateral. A certain amount of work directly to the creditor could be signed as collateral, but this is seldom done nowadays, as it is not often the case that the creditor (most commonly the legally responsible, direct creditor being a bank) would have any use for the debtor's specific skills. The idea of a "bankruptcy"[547] – leaving debts unpaid – is a fairly new concept, and e.g. 2000 years

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542 Some examples of such "propaganda":
– 8:40->, "The American Dream", animation, viewed 18.9.2013, http://www.youtube.com/watch?v=ExBE65l_vOY&t=8m40s
– Grignon, Paul, "Money As Debt - Full Length Documentary", "documentary", viewed 18.9.2013, http://www.youtube.com/watch?v=jqvK-jslxT_8&t=3m30s

543 See: "Sidenote Box 125A: The Currency, the Accounting System and the Payment Interface – What We Mean by 'Types of Money'".

544 "We may give the name of *commodity money* to that sort of money that is at the same time a commercial commodity; and that of *fiat money* to money that comprises things with a special legal qualification. A third category may be called *credit money*, this being that sort of money which constitutes a claim against any physical or legal person." ... "Whether fiat money has ever actually existed is, of course, another question, and one that cannot off-hand be answered affirmatively. It can hardly be doubted that most of those kinds of money that are not commodity money must be classified as credit money. But only detailed historical investigation could clear this matter up." (Mises 1912, p. 61)

545 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

546 More on the morality, psychology and sociology of money in this book's sister, "The Guilt Economy".

547 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

ago in some places it was common that a person unable to pay his debts would become the creditor's slave. The person's "self-ownership"[548] was practically the collateral.

Most debts are paid back in whatever currency is commonly used in the country for trading, but to protect both parties against changes in the value of the currency, the sum can alternatively be tied to the market price of some other type of good or currency. Let's refer to this type of good as "the *reference resource*" of the debt contract. The values of modern financial assets can depend on quite complicated sets of conditions. Some basics about "derivatives" are explained in "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

Now, as said, any money that is not a useful physical good in itself (e.g. gold, salt, grain, tobacco) is based on a contract – the trust that someone will give something for it – regardless of whether or not you want to accept the vocabulary of chartalists or the Credit Theory of Money.[549] Thus, all representative currencies regardless of any "gold standard" or "silver standard" are also "credit contracts" – "debt money" – in this sense. If the vaults of the bank or government issuing one-hundred-percent-reserved gold standard money ("gold deposit receipts") are robbed and the bank or government is unable to gather the same amount of gold or silver (through taxation, interest on their remaining credits or other means), people holding the banknotes suffer a credit default loss, just like the holder of any other credit would when the debtor is unable to pay her dues. E.g. the contemporary Austrian economist Jörg Guido Hülsmann defines "credit money" as promises of *a commodity*, (unlike we do here[550]) making the definition include gold-standard paper currencies.[551] Also, for example in Smith's story of "oxen" being used for trade, people hardly walked around with cattle and chopped off pieces of them to pay for other goods and services. It is likely that people mostly exchanged promises of oxen – i.e. credit contracts, the value of which were tied to the value of oxen on the market.

So, similarly to any debt contract, we could compare different currencies according to these two factors:

- The Reference Resource: What is the value of the currency tied to?
- The Collateral: What (or who) backs up – guarantees – the value of the currency?

We could almost consider these two to *define* a contractual currency – or any financial asset, for the matter.[552] Whether the contract is written on paper (e.g. a reserve banknote) or recorded as electronic data (e.g. a bank account balance) is largely irrelevant in terms of the market value and reliability of the currency (see: Sidenote Box 125A).

With representative currencies, the collateral and the reference resource are the same. As an example of a representative currency, a pound sterling note in the 19th century was a promise of the Bank of England to pay the bearer a pound (~0.4536 kg) of 92,5 % pure silver, called "sterling silver," on demand. Austrian economists would call the banknote a "deposit receipt" (and consider it a "money substitute"), but we could also consider it the bank's debt – liability – to the bearer. The debt was tied to the value of silver and was backed by the bank's reserve in silver. The banknote is not like a cloak room tag (a receipt for storage-keeping) as you won't get back the same silver bar you've deposited, but the bank can repay the bearer with any sterling silver, which (unlike a jacket) is a homogeneous, fungible commodity.

Time banks (or work hour banks) have been suggested as an alternative for "money". But, these time bank deposits are just as much a contractual currency as any other – and remarkably similar our current dollars and euros. The reference resource in this case is the productivity of one hour of the participators' work. The collateral in this case is similarly the productivity of the participators and their ability and willingness to employ that productivity. If, while on a negative balance, you fall seriously ill for a long time or simply leave the system, other people participating in the work hour bank holding positive balances suffer a credit default loss. If your working skills and thus productivity happen to deteriorate, the value of their savings drops.

Note that it doesn't matter what is officially set as the "zero-level". Any system participant with a lower than average amount of tokens is practically a net debtor. If the bank was arranged so that no one has a "negative balance" and anyone is free to leave the system at any time, holders of tokens suffer a "credit loss" if people with lower than average balances are less willing to supply their work for the "hours" marked up in the bank – regardless of whether they officially leave the system or not.

What's most noteworthy is that the work hour bank currency isn't very liquid. You'd have to find someone participating in the pool with useful skills to you to be able to withdraw some value from your account. The value of your savings varies significantly in different

548 See: "Sidenote Box 117A: Ownership as an Idea, Feeling, Relationship or Extension of the Self?".

549 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

550 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

551 "As the name says, credit money comes into being when financial instruments are being used in indirect exchanges." ... "Credit money is only a derived kind of money. It receives its value from an expected future redemption into some commodity. (Hülsmann 2008, p. 28-29)

552 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments" and "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

uses because the quantity of work you get for an "hour of savings" cannot be adjusted according to the seller's productivity or availability of the type of work she offers. As a result, people with low total productivity or ones that only have skills that are abundant in the system will have a very hard time finding buyers for their work and thus will easily become unable to earn hours – i.e. prices are unable to balance supply and demand to ensure everyone has an equal opportunity to participate in the system.[553] If people are required by some regulation to buy lower quality work – or work that is less useful to them – from others, this decreases their motivation to put in their own best effort to earn more hours and participate in the system at all. The only way to allow people with more abundant skills to participate in the system would be to limit the supply of these skills by excluding a big part of other willing participants with those skills from the system.[554] Even in this case, others would be inclined to use some other currency or even barter to get these skills from outside the work bank system for cheaper. Therefore, only people with very similar skill levels and a balanced combination of different skills matching each other's needs would be able to form a fair and functioning work bank on an "an-hour-for-an-hour" basis. This requirement further lowers liquidity in the trading system.

Time banks have recently fallen under the magnifying glass of tax officials[555] [556] – and for good reason. The "hour" of a time bank system is just as much a currency – a unit of account – as euros and dollars are, and using an alternative currency should by no means give one the right to circumvent taxation. Yet it is understandable that time bank supporters are outraged at how the tax officials want to discourage exchanging favors, but this mainly serves to highlight how senseless it is in general that the trade of work, services and goods is the main object of taxation in our current system.[557]

What about our current "paper money", as our credit money system is derogatorily called? Is it a currency with no reference resource and no collateral? Not at all. The purpose of the whole central banking system and its monetary policies of controlling interest rates is to keep inflation stable – or, currently, to keep inflation *low*, in other words to guarantee *"price stability."* Inflation is commonly defined (although not e.g. in Austrian economics) as the rise of the general price level in currency, i.e. a reduction in the purchasing power of t currency.[558] This is usually measured using a weighte basket of common consumption goods and other gener living expenses, so that "inflation" represents the chan in the costs of living in that currency. Thus the "referen resource" is this basket of consumption goods in whi the Consumer Price Index (CPI), and thereby inflation, measured.[559]

What about the collateral? Here, we have to distingui between the two different types of "money" in cre currencies:

- Cash and electronic central bank money, a.k "base money"
- Bank account deposits, a.k.a. "checkbook money"

Cash is practically government-guaranteed debt bo from the central bank. Compared to regular governm bonds they are just more liquid and more broa accepted in trade. Similarly, electronic central bank mo – retail banks' "deposits" on the central bank's accoun represents liabilities (debts) of the central bank.

In its assets to match these liabilities, the central bank both government debt and debts of retail banks that h "borrowed" the cash or central bank reserves from central bank. Additionally, it often also holds reserve foreign currencies. All central bank money is equally r free, as they are backed by the government and hence assets and its ability to collect taxes

Banks need small reserves of both kinds of central b money: cash to clear cash withdrawals and digital cen bank money to clear account transfer imbalances w other banks, as will be explained in more detail un "1.2.6 Banking: Accounting for Debts and Credits a Pricing Risks – There Is No 'Fractional Reserve'."

Bank account deposits at retail banks are the ban liability (debt) to the account holder, and they are o partly backed by the bank's reserves of cash and cent bank money. For the most part, these deposits (credit) a backed by the bank's debtors' debt liabilities to the ba and thereby these debtors' collateral for their debts. the case of corporate bonds, the borrowing compan physical assets and receivables are the most comm collateral. Because a large part of consumer debts a mortgages and many companies also have facilities their balance sheets as collateral for their leverage, most our bank account deposits are backed by real estate in ca the primary collateral, the debtors' ability to earn incom

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553 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

554 ...similarly to how the wages of many professions in developed countries are currently mainly sustained by immigration control, as Ha-Joon Chang wittily points out. (Chang 2010, p. 23-30)

555 "Ministerial working group not keen to tax time banks", YLE, 8th Jul 2013, http://yle.fi/uutiset/ministerial_working_group_not_keen_to_tax_time_banks/6722403

556 "Timebanking spreads – but is it legal?" YLE, 20th Mar 2013, http://yle.fi/uutiset/timebanking_spreads_--_but_is_it_legal/6545750

557 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

558 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level - A Has Little to Do with the Quantity of Money".

559 See: "4.2.5.1 The Most Relevant Inflation – CPI Composition".

TABLE 1: COMPARISON OF DIFFERENT CURRENCIES

Currency	Reference resource	Collateral
gold standard cash (100 % reserve system)	gold	gold
silver standard cash (100 % reserve system)	silver	silver
time banks, time store systems	different participants' productivity per hour.	the participants' working ability and willingness
"lets" (Local Exchange Trading System), e.g. WIR.	officially: parity with the official currency (often: nothing)	willingness of participants to offer services and trust that people don't leave the system with negative balances
bitcoin	nothing	nothing
"digital coins", service vouchers or other futures contracts	a specific product or service produced by a specific provider releasing the voucher	a specific company's ability (and willingness) to redeem the coin
modern credit money – central bank money	general living expenses (the CPI basket)	government property and its ability to collect taxes and other revenue
modern credit money – checkbook money	general living expenses (the CPI basket)	collateral of the retail banks' debtors: earning potential, houses, cars etc. and (if these fail) finally the government

were to fail. As bank deposits are also finally guaranteed by the government, this means that the government's ability to collect taxes is also the final collateral for bank deposits if the bank's own diversification of risks and collateral system would happen to fail.

Now, is there something wrong with the value of the banks' debt contracts being tied to something different than what is set as collateral? There is of course the risk that the market value of the collateral drops below that of what is owed in terms of the reference resource. This is why the bank usually does not grant mortgages for the full current market value of the house or of a borrowing company's liquidable assets. When there is some slack between the value of the loan and the collateral in most debt contracts, the risks of these contracts can be diversified so that it becomes very unlikely that the total value of all collateral drops below the value of the debts before the bank can be bankrupted or required to raise additional equity from shareholders.

The 2008 credit crunch showed that estimates of these price variations can go very wrong as well. However, let's remember that, in the case of individual consumers, there is also their ability to earn income as the primary collateral: Even if the value of the real estate drops, this does not cause a credit default as long as the person maintains her earning opportunities. Thus the number one way to prevent broader credit crises is to guarantee that most people have some way of earning their living and paying back their debts – regardless of economic trends.[560]

Companies, however, carry a business risk by definition and they are meant to go bankrupt when they fail to compete.[561] Thus, to avoid further credit losses, creditors (banks or private investors) usually file the company bankrupt immediately when the liquidation value of its assets drops below its debts, unless the company's owners agree to invest more risk-carrying equity into the company.[562]

Banks are companies too, and when they fail at managing the risks of all the debt contracts they have made – which is their core business – they are meant to go bankrupt. In this kind of case, the company's share value drops to zero (i.e. shareholders lose their investments) and the government steps in to guarantee deposits and take possession of remaining credits – outstanding loans – renegotiated payment schedules if necessary. This, however, is currently not how the process goes, as many banks are "too big to fail" for the current fragile, growth-dependent economy, as will be discussed in "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".

560 See: "3.1.4 Private Credit Crises, Mass Defaults and Overleverage".
561 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".
562 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks."

If you think about yourself or any other consumer, to what resource would it be most sensible or risk-free to tie the value of your savings or debts? In terms of your savings you'd probably want to tie them to the value of the things you are most likely to buy in the future. This makes sense especially when the savings are motivated by personal economic security, but is not a bad option either when saving for future investments. Thus, tying them to a stably changing relation with the general price level makes a lot of sense. Of course, your actual consumption basket might not equal the standard one used to measure official inflation, but for most people this standardization provides good enough security to avoid having to speculate on the value changes of their savings.[563] But if not, any individual can adjust his savings portfolio accordingly. If you are for example a person who just eats porridge and saves to drive his motorbike around on your next holiday and you are afraid of the costs of these changing, you can hedge against fuel and oat price changes by investing your savings in fuel and oat flakes now – or rather buying fuel and oats futures contracts[564] – binding decisions to buy the goods later at a specific price.

In terms of your debts, the least risky option for you would be to tie the value of your debt to your own ability to earn income, which is mainly dependent on your productivity (assuming no risk of long-term unemployment). But this option is hardly profitable for you because normally you would expect your productivity to increase as you gain new skills and technology evolves. This option would also be more risky to the bank and thus the bank would probably charge you a lot of extra interest (a higher risk premium) for such a deal. Even if normally people's productivity increases, such a deal would give them the incentive *not to* develop their skills or it might even encourage them to shift to a lower-paying job and this is a big risk for the bank when its liabilities to its depositors are tied to the general living expenses. Also, the bank seeks to make profits which it pays to its shareholders with money, who can be expected to care far more about how much general-living-expense-buying-power they get from the profit on their invested capital than how much work they manage to squeeze out of you specifically. Thus, the general living expenses make a lot of sense as a mutually beneficial reference resource for debts as well.

What about the collateral? What makes gold such a divine form of guarantee for the value of your money? Yes, when the value of money is tied to gold, using the same resource as collateral removes nominal credit default risks for the issuer of the money: with a gold standard and a 100 % reserve requirement, borrowers' defaults or fluctuations in the value of the collateral don't cause the bank to default on its depositors – but it doesn't remove inflation an (other) "exchange rate risks" related to holding the credi

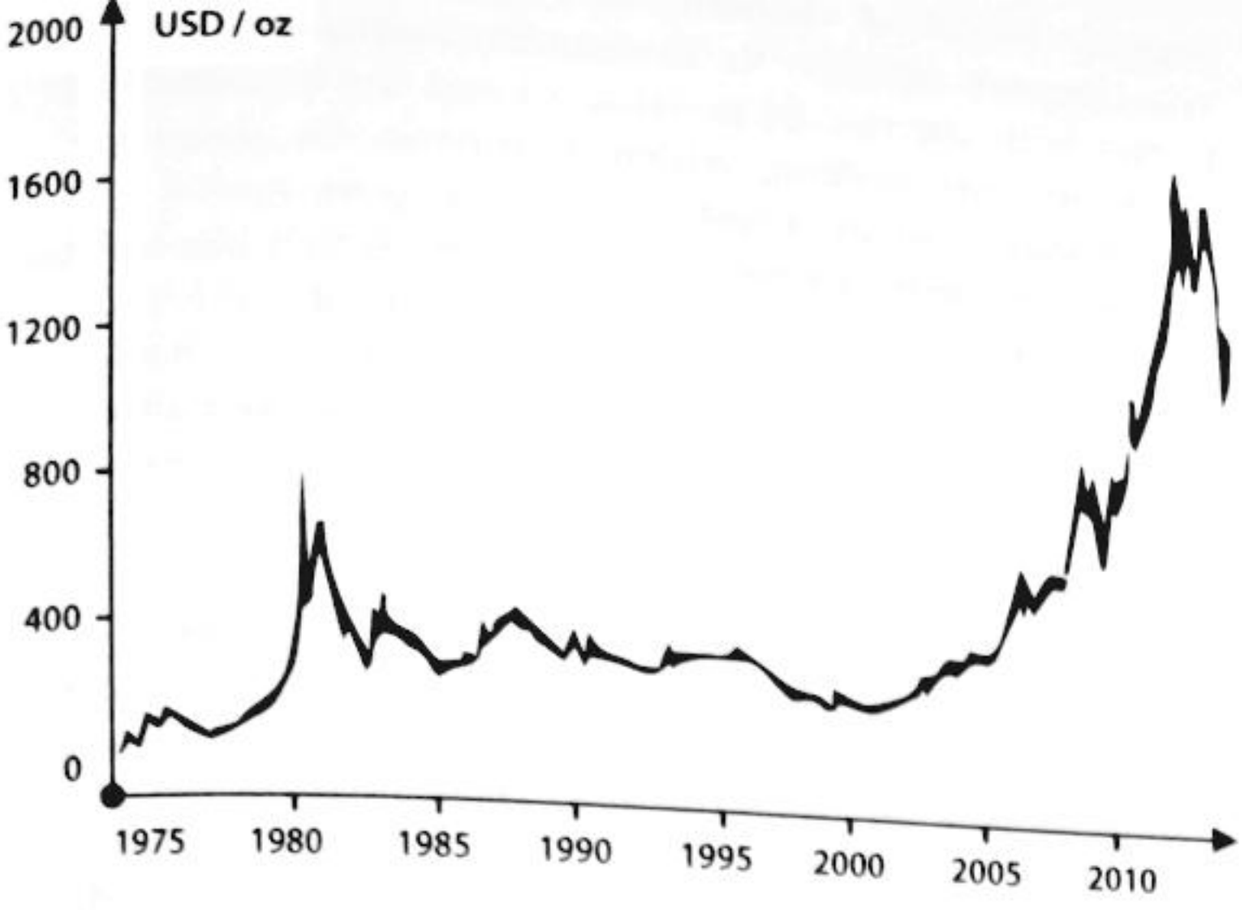
As mentioned, gold is not the resource most creditor attribute most use value to, and its market value is large speculative. Under a gold standard currency, the mark value of gold is based largely on its role as a "mediu of exchange", but nowadays it is mostly based on its st prevalent roles as an investment asset and its use val as a status symbol in e.g. jewelry. In both situations, t market value of gold is very volatile, dependent on tren and speculation. Additionally, nowadays gold do have increasing amounts of potential functional uses chemistry, electronics and other fields of production a research, but in most of them it is substitutable for sil and metals in the platinum family and thereby larg kept out of these uses due to its high price resulting fr the previously mentioned speculative reasons and sta value.

As with any investment portfolio, diversification redu risks and volatility. Thus a broad range of real est other physical assets, intellectual property and m people's ability to earn income forms a much m reliable and stable option for collateral (just like fo reference resource) than a single precious metal of lar speculative exchange value and symbolic status value

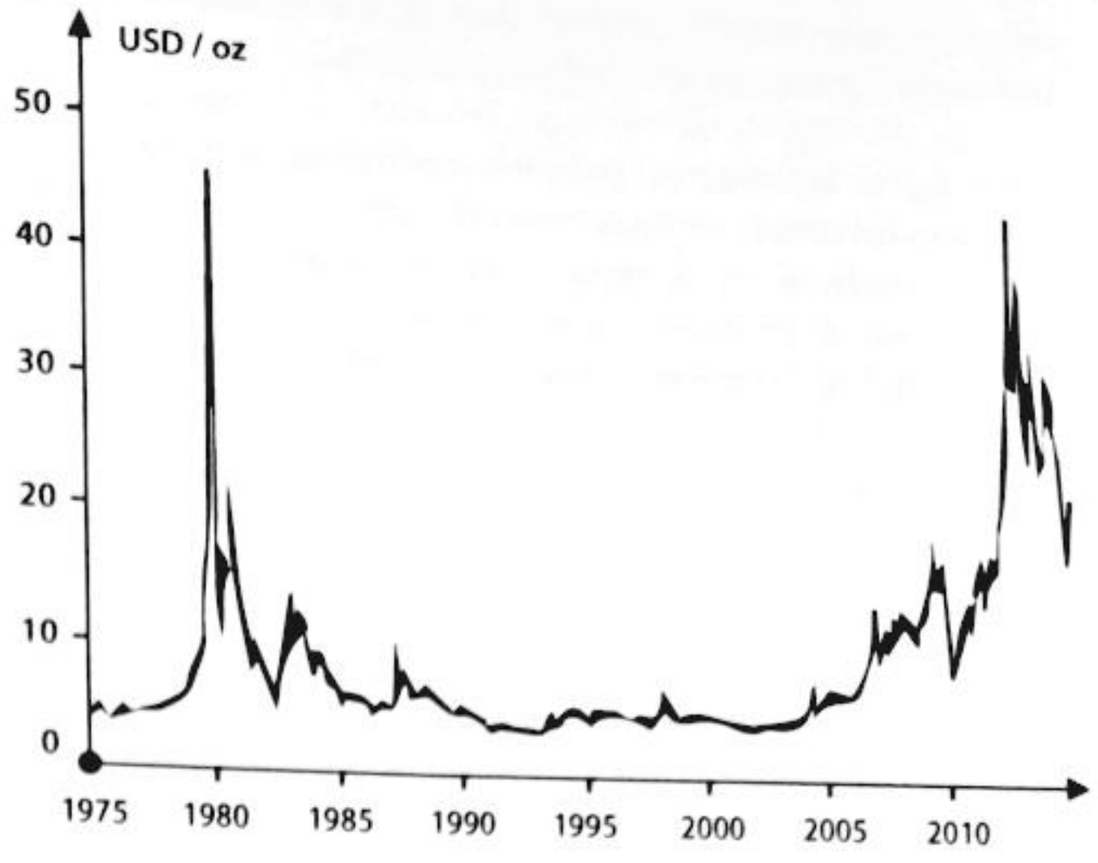
How would you like it if, in a gold standard currency, took a 4000-gold-ounce mortgage to purchase a house 5000 gold ounces (having saved the 1000 ounces earlier down payment) while your wage was 1 ounce of gold day, and then, during the first 3 years of your mortg payment, the demand for gold went up, increasing market price ten-fold (due to e.g. other countries a shifting to a gold standard, economic growth or p speculation), i.e. dropping the general price and w level to a tenth of what it was (in gold)? As a result, y ability to earn gold went down to 0.1 ounces per day, a your house would also have been "devalued" in gold fr 5000 ounces to 500. But, you'd still be stuck with yo remaining about 3635 ounce debt (assuming you've paid off your mortgage by 1/3 of your daily salary p interest), which it now – even assuming zero interes takes you 36350 days' (over 100 years) salary to pay You'd be stuck in possibly eternal debt slavery with humane possibility of paying it off with work, or ev selling your house.

Such an increase in gold price would not be unheard The market value of gold almost quadrupled in 5 yea from 2006 to 2011 – even without any speculation betwe competing currencies (although some traders might

563 See: "4.2.5.1 The Most Relevant Inflation – CPI Composition".
564 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".



GRAPH 14: HISTORICAL GOLD PRICE DEVELOPMENT.[562]



GRAPH 15: HISTORICAL SILVER PRICE DEVELOPMENT.[563]

buying in on the propaganda causing speculation over readopting the gold standard in the future).

Silver has historically been even more volatile than gold.

Here, I'll have to agree with Friedrich Hayek:

> "People will be quite as reluctant to borrow or incur debts in a currency expected to appreciate as they will hesitate to lend in a currency expected to depreciate. The convenience of use is decidedly in favour of a currency which can be expected to retain an approximately stable value. If governments and other issuers of money have to compete in inducing people to hold their money, and make long-term contracts in it, they will have to create confidence in its long-run stability." (Hayek 1976, p. 20)

However, I will also have to strongly disagree with his assumption that any commodity standard currency would be such a stable and reliable currency[567] – and his (and many others') misunderstanding that conventional monetary policy (adjusting interest rates) would be about controlling the money supply.[568]

Murray N. Rothbard – another economist of the Austrian school, who is a strong supporter of commodity currencies – argues here that private individuals can agree with the bank to tie their loans to the price of other resources as well. (Rothbard 1963, p. 35) But if many people tied their mortgages to the general level of living expenses, we'd have a situation with the same kind of risk as with a credit money system: The value of the bank's reserves (in this case gold) might drop below the value of the debt, and if the debtor defaults, the reserves might not fully back up what is owed to "depositors" – the creditors of the bank. Thus this might also result in "credit expansion" beyond available reserves (unless banks actually buy enough e.g. bananas, cell phones and fuel etc. into a big warehouse to hedge against these risks, which would be completely ludicrous, as food stocks rot and many consumption goods become outdated with technological development). The only difference is that in the case of a mortgage, there will additionally be the collateral – the house for which the loan was taken – as "reserve", but it is still possible that the value of both the real estate collateral and the gold reserves change in relation to the general living expense basket.

You won't have to go through much data to notice that the volatility of real estate to the general living expenses has historically been much lower than that of gold to the general living expenses – understandably due to the speculative nature of the value of gold. Therefore, it wouldn't be stupid of a bank to choose to rather have a higher collateral requirement of e.g. real estate and other productive real assets for their debtors to protect the equity of their shareholders and liabilities to creditors (including depositor clients) instead of holding vast reserves of something as unstable as gold – and keeping a lot of

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565 Data source: GoldPrice.org, cited 2.10.2013, http://goldprice.org/gold-price-history.html

566 Data source: SilverPrice.org, cited 2.10.2013, http://silverprice.org/silver-price-history.html

567 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

568 See: "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations", "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

valuable shareholder capital tied down unproductively and carrying the risks of the fluctuations.

In the latter alternative, people's operating cash reserves and non-invested savings would still be tied to gold, which hardly is an optimal way of hedging their risks either. They'd probably prefer those to be tied to the general living expense basket as well. If most people prefer tying savings and loans to living expenses, doesn't it then make sense for the government to provide a service that allows tying people's savings and debts (as well as the respective liabilities and assets of banks) by default to the general price level, by providing a unit of account – a currency – the inflation of which it promises to keep stable and predictable? Banks and their clients would not need to make any complicated contracts to hedge their risks, but just express debts in this currency and decide on an interest rate that compensates for the bank's risks fairly and takes into account the preset inflation rate.

If some people still preferred the gold standard, they could achieve their own gold standard with the help of gold derivatives provided by financing institutions – buying leveraged gold futures contracts (e.g. ETFs, Exchange-Traded Funds) to match their savings and "shorting"[569] gold on leverage to match their loans. If you e.g. want to take a 100 000 euro mortgage for a 200 000 euro house, you can instead take a 125 000 loan and invest 25 000 in "4x Bear Gold" ETF fund shares keeping it matching 20 % of your total loan sum with regular purchases and sales and, *voilá*, you have a portfolio identical to a 100 000 gold-standard-euro loan! If the market value of gold is halved during a period of time, you would've managed to pay off half of your debt with the profits (50 000 e) from selling off the ETF shares as their value increases. If instead it doubles, you would end up taking 100 000 euros of additional debt to keep your gold derivative position at 20% of your loans (your bank would probably not grant that much credit, but auction your house before you get there). Similarly, you can tie the value of your savings to gold by holding a fourth of your savings as "4x Bull Gold" ETFs and doing similar portfolio adjustments. No "inflationary credit expansion or government money printing" would be able to rob you of your wealth measured in gold – or your debt in gold (negative wealth) in the above mortgage example.

Hopefully we've managed to establish here, how our current credit money notes and bank deposits really are backed by real value. For comparison, let's take the recently popularized cryptocurrency, bitcoin[570]. Much of the allure is in its "independence" of any central clearing system – especially as banks are currently the most popular target of demonization and collective hatre
What appeals strongly to "commodity money-believers"
is that both the rate of increase in and the total amou
of bitcoins are limited, which eliminates the possibil
of "reckless money printing" by the government a
"credit expansion" by private banks, which they blame
inflation (by the logic of the Quantity Theory of Mon
which does not apply in our current system[572]). Bitco
currently has some unique functional benefits, as it allo
tax evasion[573] [574] and clearing international transactio
without the mediation of banks.

However, the value of bitcoin really is backed
absolutely nothing except the expectation that others w
continue to use it as a "medium of exchange". Bitcoin
already seen a big crash by over 90 % in three mon
(temporarily down to one cent), but despite this volatil
it has regained its popularity. In spring 2013, the p
made another over 500 % surge within a month follow
by an over 50 % collapse.[575] [576] [577] Such "bubbles", might
burst immediately and bitcoin may continue to incre
its popularity and handiness in international transacti
(including "money laundering") for a while – and
expected rise makes it a prime subject for specula
hoarding, further pushing the price up (but making
less and less useful currency). As many advocates argu
is a lucrative investment target.

But if – or rather "when" – a similar competitor curren
(e.g. freicoin[579] or litecoin[580], see: Graph 17) starts to
popularity because of, say, a more practical or appea
user interface, better long-term scalability[581] or a m

569 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

570 Nakamoto, Satoshi (nickname), "Bitcoin: A Peer-to-Peer Electronic Cash System", cited 5.4.2013, http://bitcoin.org/bitcoin.pdf

571 See: "1.2.1 Money Facilitates Trade through Liquidity and Broad ceptability".

572 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – Has Little to Do with the Quantity of Money".

573 "'People in Finland pay high taxes and tax evasion is generally rehensible. [But] I know many people in Finland that use bitcoin to a taxes (and mandatory employer fees) when paying salary for small assignments,' [Vesa] Linja-aho [an engineering and economics lect at a Helsinki university] said." – "Bitcoin Utopia? Interest Is Sky Hig This Euro Nation", CNBC, 5th Apr 2013, cited 7.4.2013, http://www.c com/id/100618694

574 French, Lauren, "Bitcoin: Tax Haven of the Future", Poitico, Aug 2013, cited 13.9.2013, http://www.politico.com/story/2013/08/ coin-tax-haven-95420.html

575 "Bitcoin Showing Typical 'Aggressive Bubble' Behavior: SocG CNBC, 3 Apr 2013, cited 8.3.2013, http://www.cnbc.com/id/10061301

576 "Bitcoin virtual currency soars", Phys.org, 7 Apr 2013, cited 8.3.2 http://phys.org/news/2013-04-bitcoin-virtual-currency-soars.html

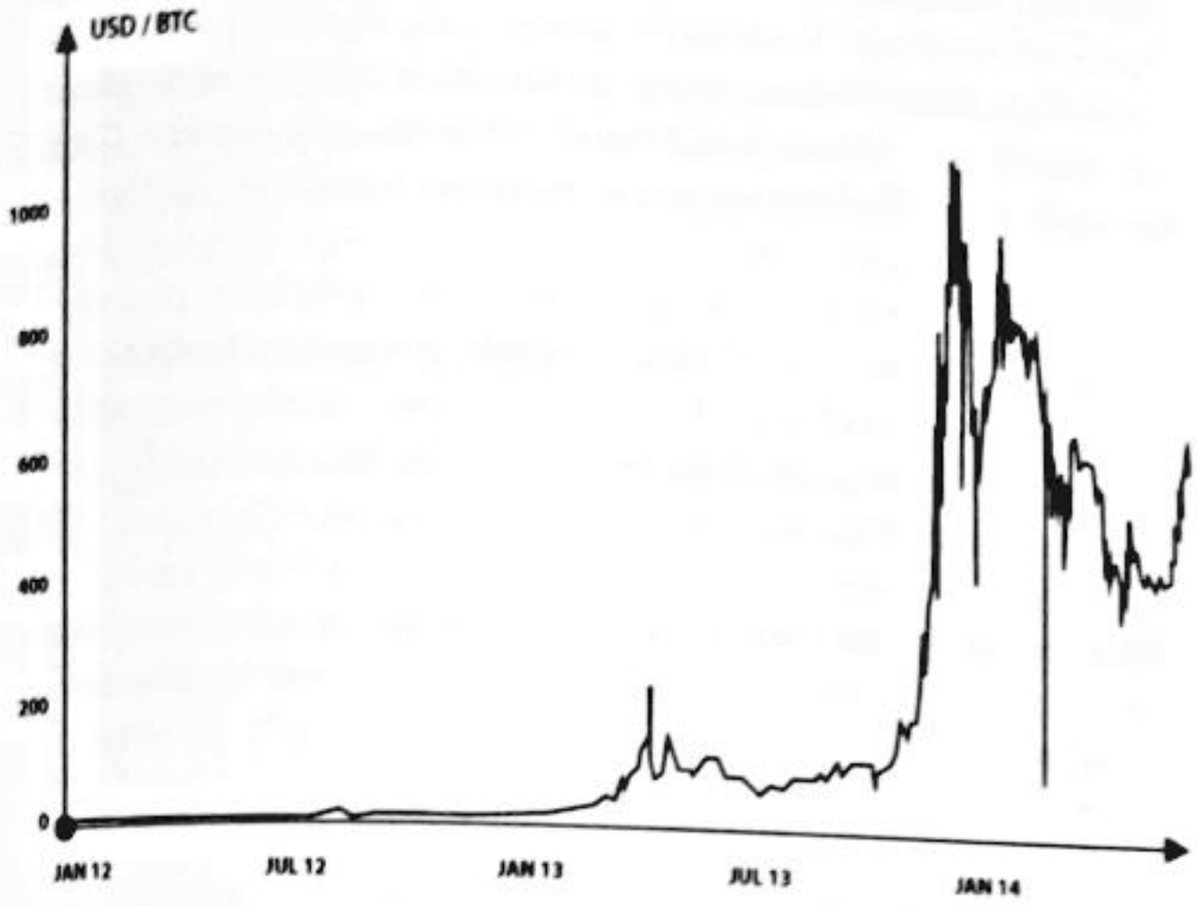
577 "Bitcoin Crashers losing nearly half of its value in Six Hou Ars Technica, 10 Apr 2013, cited 11.4.2013, http://arstechnica.co business/2013/04/bitcoin-crashes-losing-nearly-half-of-its-value-in- hours/

578 "Cryptocurrencies by trade volume 20/03/2014", Wikbrains.c cited 28.3.2014, http://wikibrains.com/map/532add45e4b0dbbf379c4f UzC3l1GSxwg

579 "Freicoin: a peer-to-peer digital currency delivering freedom fr usury", cited 13.9.2013, http://freico.in/

580 "What is Litecoin?" cited 13.9.2013, https://litecoin.org/

581 As an example of a scalability challenge, the regular interval a fixed 1 MB size of new additions to the blockchain currently limit t number of bitcoin transactions to a maximum of around 7 per secon



GRAPH 16: BITCOIN PRICE DEVELOPMENT [580]

GRAPH 17: LITECOIN PRICE DEVELOPMENT

credible collateral base, even the *prospect* of bitcoin going "out of fashion" would likely cause a massive "hyperinflation", wiping out much of this speculative value.

Another thing that can cause a crash in prices are speculations over the security of the encryption system and any bitcoin wallet services. Even without such a hack actually occurring, it would be possible for speculators to cause sudden crashes in its market price simply by spreading credible sounding rumors of it being possible. Bitcoin's market value strongly correlates with its press coverage and amount of social media activity around it.[582] When coverage and discussion starts turning negative, this impact can surely work the other way around as well.

Regardless of what could initiate such waves of panic sale, people would be left with bitcoins for which no one is willing to provide any service – or at least much less than before. At least gold has some functional and symbolic uses to ensure that its value will not completely evaporate overnight into thin air.

As Felix Salmon writes:

> "In reality, then, bitcoin doesn't really behave like a currency at all. In terms of its market value, it looks much more like a highly-volatile commodity."[584]

Bitcoin fanatics insist that bitcoin's volatility is due to its small scale, and that it would become more stable if it became more widely adopted. However, size alone does not bring stability. On the contrary, the growth phase to such wide adoption is especially prone to volatility due to speculation over the growth rate. If, hypothetically, bitcoin were to become the main currency in which wages are paid, nominal wage rigidity[585] might prevent massive swings within days, but not prevent slower but strong speculative deflation and inflation trends.[586] In such a situation, the main driving force in its market value rising would be the fears of unemployment associated with deflationary recessions.[587] The speculative nature and

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Transaction costs rise when there is higher demand for transactions, but there is no price elasticity in the supply of transactions. This will make bitcoin transactions more and more expensive as it gain popularity. One way to avoid this would be building credit-based transaction services on top of the bitcoin system, but this eats away one of the main (perceived) added-values of bitcoin: independence of such intermediaries. On the other hand, increasing the size of the blockchain would make storing the whole blockchain viable only for large server farms, also threatening its "decentralized" nature.
Lee, Timothy B., "Bitcoin needs to scale by a factor of 1000 to compete with Visa. Here's how to do it", Washington Post, 12th Nov 2013, cited 26.2.2014, http://www.washingtonpost.com/blogs/the-switch/wp/2013/11/12/bitcoin-needs-to-scale-by-a-factor-of-1000-to-compete-with-visa-heres-how-to-do-it/
"Why the blocksize limit keeps Bitcoin free and decentralized", KeepBitcoinFree.org, viewed 26.2.2014, http://www.youtube.com/watch?v=cZp7UGgBR0I

582 Salmon, Felix, "The Bitcoin Bubble and the Future of Currency", 3rd Apr 2013, cited 8.3.2013, https://medium.com/money-banking/2b5ef79482cb

583 Source: Mt. Gox, cited 1.10.2013, www.mtgox.com.

584 Salmon, Felix, 2013, "The Bitcoin Bubble and the Future of Currency", 3rd Apr 2013, cited 8.3.2013, https://medium.com/money-banking/2b5ef79482cb

585 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities".

586 "Inflation", here, is used in the mainstream definition of changes in the general price level, see: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

587 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemploy-

volatility of the currency would become the volatility of the whole economy. Why the interest rate mechanism in any commodity money does not work efficiently to keep aggregate supply and demand in balance is explained in "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

It is noteworthy that in most cases where bitcoin is used for conducting transactions, like online drug trade, or international money transfers (and other money laundering where anonymity is important), neither the intermediaries nor the traders hold significant bitcoin balances, but exchange them for a less risky local currency almost immediately after the transactions. The only reason the desire to conduct transactions in bitcoin (the demand for it as a "medium of exchange") would maintain any demand for *holding* it is that transactions are not immediate. Hence, the 10 minutes or so delay in clearing transactions, which is often seen as one of bitcoins weaknesses,[588] is actually one of the only factors giving it hope of maintaining any value because of the *transaction services* the bitcoin protocol provides. Extending this delay, could theoretically make a currency where the Quantity Theory of Money[589] has some validity: i.e. where the market value of the currency is mostly determined by its quantity and the value of transactions conducted in it during a set period of time.[590] Without this delay, the market value of bitcoins would *only* be maintained by speculators holding it for expected gain. And it is mostly so even with the current delay. And a longer delay (which is also inconvenient) would not eliminate its long-run speculative nature either, as nothing prevents users switching to conducting transactions in another cryptocurrency.

As Felix Salmon points out, we could make a distinction between the "bitcoin currency" and the "bitcoin payments system". Referring to both separately *and* collectively as "bitcoin" is quite misleading.

> "The commodity value of bitcoins is rooted in their currency value, but the more of a commodity they become, the less useful they are as a currency."

> "There's a lot to be said for a fast, efficient, peer-to-peer payments system which bypasses centers of authority and which has negligible transaction costs. It just doesn't need to be its own currency." (source in footnote 584)

Bitcoin could be considered one of the most ingenious crossbreeds between a Ponzi scheme and a pyramid scheme to date. It is like a Ponzi scheme[591] in that it is essentially about selling an intrinsically worthless investment product (or commodity) with its value based only on the promise that others will want to buy it from you (be it because of an ingenious new transaction system for transferring them), and that the profits to incumbent investors come directly from new "investors." However, it is more like a pyramid scheme[592] in that no one is actually lied to and that there is no central party managing it, but people are instead "recruited" by earlier adopters, and that the clearly biggest profiteers are the very early adopters.[593] "Bitcon" might be considered an earned intentional typo, even if almost all the participants really believed in its potential. (Collective self-deception is usually much more effective than centrally-coordinated systematic fraud – and a much more likely explanation for phenomena seemingly in no one's long-term interests than some kind of conspiracy.[594])

Also Gary North calls bitcoins the "the second biggest Ponzi scheme in history" (the biggest in his view being social security[595]). Although his arguments based on the Austrian school's theory of the origin of money and the claim that the value of money would be "historic value" are not very plausible,[596] he strikes gold (pun intended) in that "[t]he central benefit of money is its predictable purchasing power" and that "[i]t is the predictability of money's market exchange rate that makes it money."[597]

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ment and Growth Dependence".

588 Heggestuen, John, "BITCOIN: How It Works, And Why It Could Fundamentally Change How Companies And Individuals Handle Payments", Business Insider, 31st Jan 2014, cited 1.4.2014, http://www.businessinsider.com.au/how-bitcoin-works-and-could-change-payments-2014-1

589 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

590 For example Knut Wicksell accepted Ricardo's Quantity Theory in a pure "cash economy" precisely because of the relatively fixed time he assumed cash transactions must take:
"The demand for cash, Wicksell noted, varies only 'within fairly narrow limits' and cash money 'cannot circulate ... faster than a messenger boy can run' (Wicksell, 1936, p. 54)." (Leijonhufvud, p. 1)
E.g. Austrian economists disagree with this assumption even in cash economies:
"If the work of money is circulation, then money is always "idle" because transactions are quasi-instantaneous. ... The transfer [of money] itself occupies a mere moment..." (Hutt 1975)
"In fact, since money that is surrendered in an exchange is immediately transferred from the ownership of the one party to that of the other, and no period of time can be discovered in which it is actually in movement, all money must be regarded as at rest in the cash reserve of some individual or other..." (Mises 1912, p. 147)

591 "Ponzi scheme", definition, Investopedia, cited 24.10.2013, http://www.investopedia.com/terms/p/ponzischeme.asp

592 "Pyramid Scheme", definition, The Farlex Free Dictionary, cited 24.10.2013, http://www.thefreedictionary.com/pyramid+scheme

593 Rothovius, Timo, "Virtuaalivaluutta – sijoituskohde", Uusi Suomi, 7th Mar 2013, cited 10.3.2014, http://timorothovius.puheenvuoro.uusisuomi.fi/162481-virtuaalivaluutta-%E2%80%93-sijoituskohde

594 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal", "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "3.2.3 Unionization and Strikes".

595 See: "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".

596 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".

597 North, Gary, "Bitcoins: The Second Biggest Ponzi Scheme in History", Gary North's Specific Answers, 29th Nov 2013, cited 2.12.2013, http://

But bitcoin is a wonderful phenomenon in that it will serve as a prime example of how commodities are bad currencies.[598] The value of any "debt-free" or "commodity" money is largely speculative in nature[599] and therefore such currencies do not provide a stable basis for an economic system – especially not for taking loans or saving up for future investments or free time.

Friedrich Hayek suggests that:

> "[t]here could be no more effective check against the abuse of money by the government than if people were free to refuse any money they distrusted and to prefer money in which they had confidence." (Hayek 1976, p. 18)

But much of the advantage of other, "alternative" currencies (bitcoin for libertarians and other anti-fiat geeks and e.g. time banks and WIR for left-wing anti-capitalists and anti-moneyists) to our current official credit money – in addition to the positive ideological charges attached to them – is that they allow evasion of transaction taxes (VAT, income tax, corporate taxes etc.).[600] [601] [602] And it is quite senseless that our current taxation models are so focused on transaction taxes – when one of the main purposes of a monetary system is to facilitate transaction.[603] If transactions with all of these currencies were taxed equally (or not at all) and the market opened otherwise for free "currency competition" (as libertarians insist should be done), I have little doubt that most people would still prefer our current units of account with predictable purchasing power for their transactions and as the accounting unit for their savings and debts.

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www.garynorth.com/public/11828.cfm

598 "But it's very hard to be a currency when you're also a commodity, governed by rules of scarcity and subject to speculative attack." (source in footnote 584)

599 See also: Lee, Timothy B. "Four Reasons You Shouldn't Buy Bitcoins", Forbes, 3rd Apr 2013, cited 20.4.2013, http://www.forbes.com/sites/timothylee/2013/04/03/four-reason-you-shouldnt-buy-bitcoins/

600 Wood, Robert W., "Bitcoin: Tax Evasion Currency", Forbes, 7th Aug 2013, cited 13.9.2013, http://www.forbes.com/sites/robertwood/2013/08/07/bitcoin-tax-evasion-currency/

601 Marian, Omri Y., 2013, "Are Cryptocurrencies 'Super' Tax Havens?" 112 Michigan Law Review First Impressions (2013), Forthcoming, retrieved 13.9.2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2305863

602 "Time Banking Tax Exempt Status", Timebank New Zealand, cited 13.9.2013, http://www.timebank.org.nz/node/53

603 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

Sidenote Box 125A: The Currency, the Accounting System and the Payment Interface – What We Mean by 'Types of Money'

"The greatest mistake that can be made in economic investigation is to fix attention on mere appearances, and so to fail to perceive the fundamental difference between things whose externals alone are similar, or to discriminate between fundamentally similar things whose externals alone are different.

Admittedly, for the numismatist and the technologist and the historian of art there is very little difference between the five-franc piece before and after the cessation of free coinage of silver, while the Austrian silver gulden even of the period 1879 to 1892 appears to be fundamentally different from the paper gulden. But it is regrettable that such superficial distinctions as this should still play a part in economic discussion." – Ludwig von Mises, The Theory of Money and Credit (1912, p. 62)

The previous case of bitcoin emphasized the importance of distinguishing the *currency* from the *payment technology* to transfer that currency. In the previous chapter, we talked about the differences between "currencies" – units of value and account. When people talk about what money will be like in the future, they might bring up things like cell phone payments and chips implanted under people's skin. What they are talking about in these cases is different *payment interfaces*. Such developments would not require changing the units with which we are actually paying each other, nor the accounting system for keeping track of the holders of those units: We could still have the same dollars and euros and the same electronic bank balance sheets keeping track of how much each of us is on the plus or minus side in them.

When we talk about different kinds of money, it is important to distinguish whether we are talking about (1) currencies, (2) accounting systems or (3) payment interfaces. In the case of bitcoin, the currency is "a bitcoin" (BTC), the accounting system is the blockchain and the interfaces are different "bitcoin wallets" and other bitcoin payment services. The physical bitcoins that some entrepreneurs produce are also one kind of interface, which refers to positions accounted for in the same blockchain.

Physical cash is at once an accounting system and an interface, although we could include our physical wallets, piggy banks and cashier machines in the "interface". Electronic bank balance sheets are a parallel accounting system (to cash) for dollars and euros. Today we have multiple interfaces for "manipulating" this electronic accounting system, i.e. making payments between accounts, including internet banking services, debit cards, payment teller machines and mobile payment services.

Credit cards and e.g. PayPal are mainly interfaces, but as they don't always immediately affect the balances on our bank accounts, they also form a part of the accounting system for credit denominated in the same dollars and euros.

1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'

In short:

- *Banks don't "lend on other people's money", but simple grant new credit. Money, in our current system, is liquid, government-guaranteed credit on banks. Physical cash is credit on the central bank. Whenever banks make payments to non-banks (including granting new "loans"), more money is "created" – when banks receive payments (including repayments of "loans"), money is "destroyed".*
- *The main business of retail banks is to price credit contracts, manage their risks and provide payment services that allow transferring liquid credit easily between parties.*
- *The relevant limiting factor for making new loans for a bank is (or should be) its solvency – how well it can carry the risks of the volatility and defaults of its assets (mainly outstanding loans) with its share-holder equity and risk-bearing credit.*
- *Reserves of cash and central bank money do not limit how much money banks can grant in so-called "loans" – nor does the amount of "deposits" a bank is holding. Reserves are only needed for clearing differences in transaction between banks. Banks compete over "deposits" because they are a cheaper form of finance (and possibly to attract future "borrowing" clients).*
- *(The reason for the quotation marks used above are explained in: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money' " and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".)*

"A banker is one who centralises the debts of mankind and cancels them against one another. Banks are the clearing houses of commerce." – Alfred Mitchell-Innes (1914)

"The process by which banks create money is so simple that the mind is repelled." – John Kenneth Galbraith

"[I]t proved extraordinarily difficult for economists to recognise that bank loans and bank investments do create deposits. In fact, throughout the period under survey they refused with practical unanimity to do so" – Joseph Schumpeter (1954)

"[W]hen I was a student in the late 50s and the early 60s, it was widely understood – absolutely taken for granted – that the causality went from loans to deposits: loans create deposits. Now students are all taught that banks lend on deposits: that deposits create the ability to lend and banks respond to that – this is a regression." – Victoria Chick (Emeritus Professor of Economics, University College London)[604]

Especially people believing in commodity currencies like to remind us that bank account deposits are not exactly the same thing as notes and coins. Although their value is the same by law, the bank doesn't hold on to even closely as much physical cash as they have credit liabilities, including bank account deposits to their customers.

This is because private banks can "expand credit". The "traditional" and popular view of this "fractional reserve banking" is that, if the bank has 1 000 000 e of bank account deposits (liabilities to depositors) and matching 1 000 000 e reserves of cash (government credit), it can give out 90 % (900 000 e) of this as loans and create this money as new deposits on the borrowers' bank accounts. Of these new deposits, it can lend out 90 % again (810 000 e) and so on, until it has increased the amount of deposits to 10 times the original (10 000 000 e).

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604 12:22–, Chick, Victoria, " Why don't Economists understand money? ([Positive Money] Conference 2013)", viewed 4.3.2014, http://www.youtube.com/watch?v=EObtwxpDSzk

However, this explanation is rather misleading. In today's world of electronic money, it could be considered a children's bed time story in which, unfortunately, most adults still believe. It is based on the assumption and mental image that most transactions are executed in cash and that banks "lend out" this cash when they make loans. In such a world, it is a sensible assumption that banks have to wait for the lent-out cash to be redeposited before more loans can be made.

> In practice today, a bank's ability to issue new loans has very little to do with existing "deposits" at the bank or the amounts of reserves it is holding. When a bank makes a new loan, it creates new "deposits" – entries in the "borrower's" account – for the full worth of the loan. It does not withhold anything from existing deposits (from other people's accounts) in any way, but both old and new deposits remain fully liquidly available for transactions to other accounts and withdrawal in cash – government backed credit. (Ryan-Collins et al 2012)

In terms of reserves, the bank only needs to hold:

- sufficient amounts of (physical) cash to facilitate withdrawal needs
- sufficient reserves of central bank money (also referred to as "deposits with the central bank") to clear transactions between other banks due to e.g. deposit customers transferring unbalanced amounts of money between accounts of different banks.

The government might set limits on how big these reserves have to be. For example, in the U.S. since 2011, banks are required to hold reserves (cash or central bank money) of 0 %, 3 % or 10 % of their transaction accounts liquid deposits that can immediately by transferred or withdrawn (contrasted with "term deposits" or "time deposits") – depending on the total amount of deposits they have outstanding.[605]

However, the amount of deposits a bank holds does not significantly limit its ability make new loans as it can always borrow more cash and central bank money from the other retail banks or the central bank, which acts a "lender of last resort". Therefore, banks have a virtually zero risk of going bankrupt due to a *liquidity crisis*[606] – not having enough cash to meet their short-term payment obligations as a result of e.g. "bank runs", mass withdrawals from accounts. Low liquidity – small reserves – at most risks causing nuisance to customers due to possible delayed payments and extra interest costs for the bank for having to take fast loans from other institutions (other banks or the central bank).

> "The 'reserves of lawful money' in the banks have no more importance than any other bank asset." (Mitchell-Innes 1914)

This renders for example the Diamond-Dybvig (1983) model – modeling the threat of bank runs[607] – quite useless in an era where electronic deposits are the most liquid form of money. The main reason banks compete over deposits from bank depositors (note, not the same as reserves) with one another is that bank deposits – liquid checking account liabilities – are cheaper (financial) capital[608] than central bank money and therefore allow more profits on shareholder equity. Another incentive to compete over depositors is to attract clients that can be profited from by selling them other services, like mortgages or insurances.

More crucial than *reserve requirements* – which have to do with the assets side of the balance sheet and affect the bank's *liquidity* with other banks – are *capital requirements* on the liabilities side, which have to do with the bank's *solvency*. The bank's shareholder equity and risk-bearing credit, i.e. corporate bonds, need to be able to cover for the market volatility, possible credit defaults and other risks of the bank's assets. Banks that don't hold enough equity (i.e. are overleveraged) and that are unable to collect additional equity from their shareholders should be filed bankrupt, and their assets should be nationalized (although in practice this does not happen in many cases, which is at the core of our financial crisis, as is explained in "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking").

The process of "credit expansion" has been described by many critics of the system as "creating money out of nothing", "counterfeiting" or "making promises of money that doesn't exist". So why isn't this system twisted and fraudulent? Because credits and debts remain in balance and the bank holds assets exceeding its credit liabilities.

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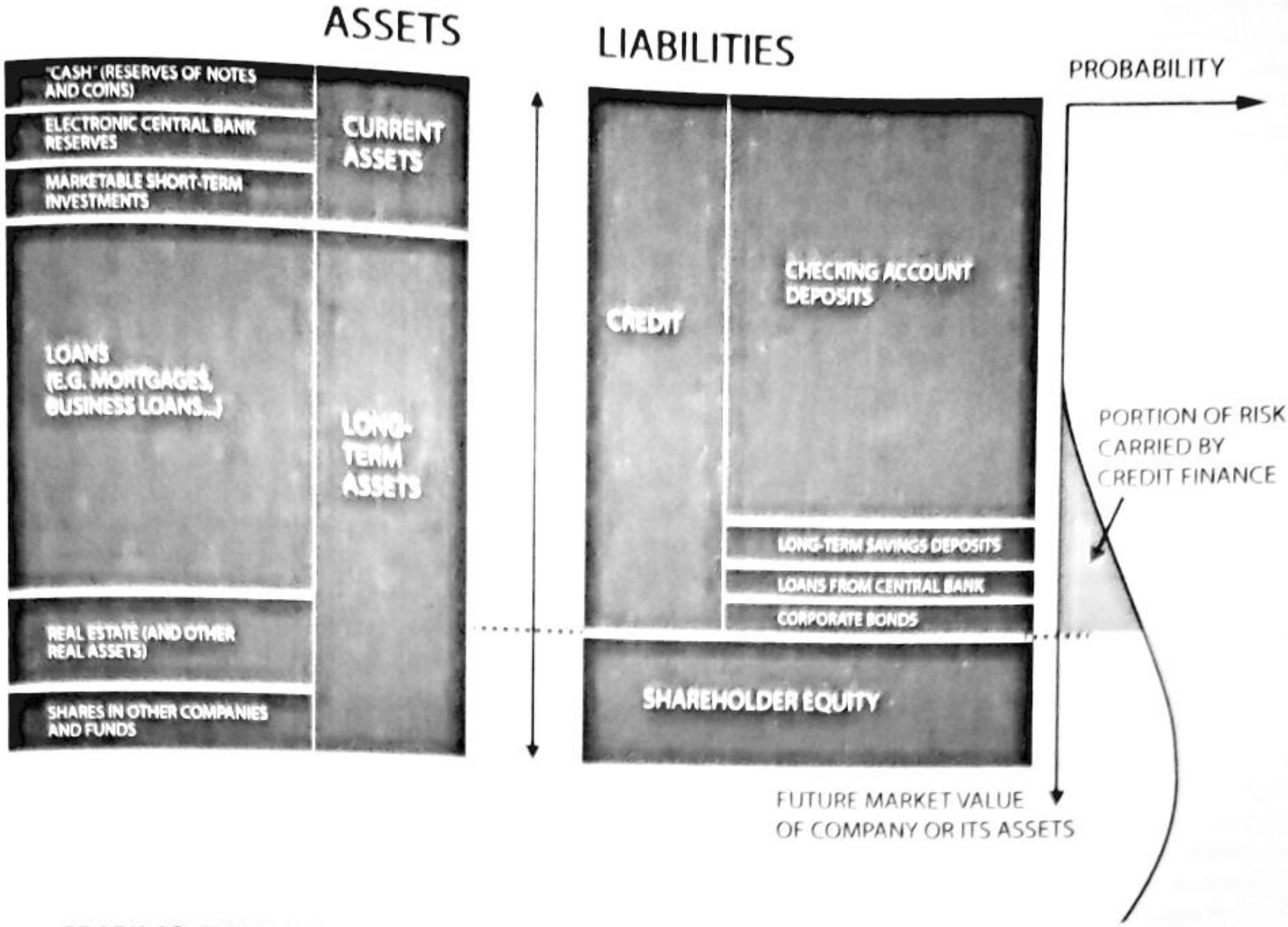
605 "Reserve Requirements, Federal Reserve, cited 2012.12.01 http://www.federalreserve.gov/monetarypolicy/reservereq.htm

606 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

607 The logic behind the Diamond Dybvig model is that as a big part of bank's assets (like loans with set payment schedules or otherwise long maturity) are illiquid, but a big part of their liabilities (deposits) are liquid, this would give rise to self-fulfilling panics among depositors: even healthy banks could be subject to bank runs if depositors expect others to withdraw massive amounts of funds. The whole model starts from the perception that banks channel funds from many individual deposits into loans for borrowers that banks are intermediaries between savers who prefer to deposit in liquid accounts and borrowers who prefer to take out long-maturity loans.

608 See: "Sidenote Box 11BC: Marx's 'Capital' Is Closer to Financial Capital".



GRAPH 18: THE RISKS OF A BANK'S ASSETS DISTRIBUTED ON EQUITY AND CREDIT FINANCE.

"A banker is one who centralises the debts of mankind and cancels them against one another. Banks are the clearing houses of commerce." (Mitchell-Innes 1914)

When you take out a "loan"[609] from a bank, the loan contract is your liability (debt) to the bank and the sum the bank writes on your account (the "deposit") is the bank's liability (debt) to you. At the moment when the "loan" has been granted, you practically owe yourself through the bank. When you use the money to buy things – for example a house or consumer goods – you transfer the money to the sellers' accounts. Now, you still owe the bank through the loan, but the bank now owes the sellers through the entries ("deposits") on their accounts. In this way the loan and the bank deposits form a debt relationship between you and the sellers. The bank is just an intermediary. The only difference between you buying on credit directly from the sellers is that now the bank covers the risks of your default and allows the sellers to use the credit they acquired – your debt – for further trading without the receivers of that credit needing to come back to check your creditworthiness.

In the case of buying with a credit card, the credit card company carries your default risks for the seller and makes the credit liquid, just as a bank would if you instead took a consumption loan to pay the seller with a debit card, cash or bank transfer. The security of individual deposits is not dependent on defaults on individual debts, the risks of which are covered by banks with their shareholder equity gathered through issuing shares and with the profits made from the interest margins they charge. As the government finally guarantees all "deposits", liquid credit on banks, your deposits are not only backed by all of your bank's assets (including all outstanding debts to it[610]), but also by the government's solvency, including its ability to collect taxes.

609 See: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".

610 See: "Graph 18: The risks of a bank's assets distributed on equity and credit finance."

When the bank charges interest on the debt, this adds to both the amount of debt of the client and to the receivable – credit – of the bank. You might now note that this added amount of debt did not "create any new money" – liquid bank deposits. The debtor (or any seller he has traded with) did not get any more money (credit) but is still required to pay back more (his debt increased). Alternatively the bank takes the interest payment as money from the debtor's account, without decreasing the amount the debtor owes to the bank. Now there is more debt than there is money. That is true. A fascinatingly large number of critics say that this new debt caused by interest is "perpetual" – that it is "arithmetically impossible to pay it back" because the money to pay the interest "does not exist".[611] But looking at money as a credit relationship, this is a very illogical conclusion, as I'll explain here.

In short, all debt is to someone else: There's always a creditor for every cent owed. Let's consider the simple case where I render you a favor and you thus "owe me one". Debt is created, but no money (liquid credit) is created. And that's the traditional way debt emerges in a system without banks. Why is it that these debts are still payable? Because fundamentally, all debts are paid back by producing goods, services or some other form of real economy value! Money is just a way to keep account of credits.

> "Money does not pay for anything, never has, never will. It is an economic axiom as old as the hills that goods and services can be paid for only with goods and services." – Albert Jay Nock, *Memoirs of a Superfluous Man (1943)*

> "A credit cancels a debt; this is the primitive law of commerce. By sale a credit is acquired, by purchase a debt is created. Purchases, therefore, are paid for by sales." (Mitchell-Innes 1914)

There would always be more debt than money, even if no interest was charged, simply because money is liquid credit, but not all credit is as liquid. There are also bonds and other direct loans made without an intermediary that is allowed to create liquid, government-backed deposits. With no banks, no new credit would be liquid and all debts would be "created" without "creating money". If you are opposed to creating debt without creating a matching amount of money, you should definitely be most opposed to peer-to-peer lending services,[612] as these create no new liquidity.

Even if the creditor required the payment in money, this is not a problem, because when I have paid off a part of the debt, the creditor can spend the money "back into the system" by buying a service from me – or from someone else who can then buy a service from me. I can then use the same money – cash or renewed account balance – to pay off more of the debt. In an "all-cash economy", a million euros of debt could be paid off by "circulating" a single one-euro coin often enough.

Additionally, what someone hasn't told these perpetual debt hoaxers is that, in our current credit money system (not an all-cash economy), banks do not only "create" money when they make loans, but also when they make almost any other of their own payments: e.g. when purchasing other assets (McLeay et al 2014, p. 17)[613] and paying interest on depositor accounts, salaries and dividends. When a bank pays salaries to its employees or dividends to its shareholders that are banking with that same bank, the bank simply credits their accounts – writes a bigger number on them – "creating new money" for them. This additional liability reduces the bank's shareholder equity. If the employees or shareholders have their accounts in another bank, that other bank "creates new money" on their accounts, and this new liability is matched by a transfer of *central bank money* from that bank's account from the bank paying the salary or dividends (unless these transfers are offset by transfers between other accounts in the same banks in the opposite direction). No checkbook money disappears from the bank making the payment. (A bank's "own accounts" are trivial accounts, as they are essentially the bank's debts to itself.)

When a "normal" (non-bank) company pays salaries, net new liquid credit is not created, as those companies' accounts are debited (i.e. the amount owed to the account holder is reduced) while the employees' accounts are credited (i.e. the amount owed to the account holder is increased).

Of course, *if* the bank's employees and owners do not spend their earnings, the debt becomes "perpetual", but this applies to anyone providing any kinds of services or products (not only banking, i.e. risk management and transaction services) to others without giving them possibilities of returning favors. And avoiding some excessive hoarding of credit – others' debt – beyond how much others want to be in debt requires facilitating negative real interest rates. This is at the heart of solving the instability and growth dependence of the current economic system, as will be discussed in "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target by Eliminating Cash".

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611 See: "3.1.2.1 The Perpetual Debt Hoax, a.k.a. The Fallacy of Unpayable Interest".

612 See footnote 713.

613 "Deposit creation or destruction will also occur any time the banking sector (including the central bank) buys or sells existing assets from or to consumers, or, more often, from companies or the government." (McLeay et al 2014, p. 17)

Let's return to the matter of bank liquidity. By law, checking account deposits – as opposed to savings accounts that have limits to the amount and frequency of withdrawals – should be withdrawable at any time as government-issued notes and coins (i.e. as "legal tender"). Critics of the current system point out that if everyone wanted to do that, the bank wouldn't have even closely enough cash available. This sort of flight of deposits is called a "bank run" or a "run on the bank". The bank wouldn't be solvency bankrupt, because it still has enough assets – outstanding loans often backed by real assets – to match its deposit liabilities and outstanding debts to its other creditors, but it would be in a major *liquidity crisis*.

What a bank could do in such a situation would be to sell its debt contracts (or other assets) on to another bank for cash reserves. As long as such a bank run is expected to be temporary, it makes more sense that the bank borrows the cash, setting its assets (including the obligations of its current debtors) as collateral for these debts. Currently, the central bank acts as this kind of lender of last resort if other private banks are unwilling to make such loans of reserves to each other (as most have been in the uncertain environment following the 2008 credit crunch). If large bank runs occur, it might take some time for the central bank to have all the needed physical cash printed at the mint, but the final outcome is that the central bank just becomes an extra middleman in the existing credit relationships. When the chain of liability used to be:

deposit holder ← retail bank ← mortgage debtors

...after the bank run it is:

cash holder ← central bank ← retail bank ← mortgage debtors

The ex-depositors (now cash holders) lose their interest income, the bank makes losses in having to pay the central bank higher interest rates and the central bank (the government) loses a big part – or all and more – of these extra profits as cash printing and minting costs. Everyone loses.

The question that follows is why would people do such a massive bank run and choose to hold physical cash, which is much more inconvenient than having electronic deposits? Most commonly the reason is mistrust in the bank's ability to guarantee the deposits. In a completely "free market" with independent banks, this would be a serious risk. E.g. the 19th century U.S. banking system, without a central bank as a lender of last resort, saw repeated banking crises. However, when bank deposits are guaranteed by the government, they are not any more risky than cash – and additionally often have interest paid on them. With today's system of fluent internet banking and credit card payments, bank deposits are often even more liquid than cash, which is starting to become relatively expensive to handle for both consumers and vendors. As cash is becoming a less and less handy and less valued form of money, the need for cash reserves is further diminishing. Banks mainly need reserves of electronic central bank money to balance out the differences in transfers between the accounts of different banks.

The fact that a bank does not have enough government-issued banknotes as reserves to allow all its depositors to withdraw their savings is thus no reason to call the system a fraud. On the contrary, this credit money system, where money is backed mostly by private debt – and all possible real assets in the private economy that is used as collateral – is a much more robust basis for a monetary system than one where only government issued credit is allowed to be liquid.[614] If anything is a fraud, it's the claims that our economy could be made more stable by depriving banks of their ability to "create money" and the demands that all money should to be credit directly on the government. Vast amounts of this kind of liquidity unbacked by private debt would threaten the central bank's ability to prevent hyperinflation, as the government's ability to tax is very inflexible.[615]

An equally harmful scam are the claims that a gold standard could work as a stable currency providing sustainable economic security for the participants and allowing our economy to run smoothly. In reality, it would be almost impossible for such a currency to keep aggregate supply and demand in balance, as such limited, vital resources are tempting targets for speculative hoarding and hence unavoidably volatile.[616]

"We would rather be ruined than changed. We would rather die in our dread than climb the cross of the moment – and let our illusions die." – W. H. Auden

"The greatest – and most robust – contributions to knowledge consists in removing what we think is wrong – subtractive epistemology." – Nassim Nicholas Taleb, Antifragile (2012, p. 303)

614 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".
615 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".
616 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'

> "One factor is that there is a great fault in the language that we use – or a great bias in the language that we use – in relation to banking. The word 'deposit' is a hangover from the days of the goldsmiths who took bags of gold for safekeeping." .. "[M]uch of the neoclassical theory of banking still regards these as kinds of glorified safes, which they clearly are not." .. "And we also speak of banks 'lending money'. Banks do not lend money! It may feel like that when you get a loan, but that's not what they're doing. They don't have a pot of money, which they are passing on." – Victoria Chick (Emeritus Professor of Economics, University College London)[617]

If anyone were to suggest the idea that (excessive) saving of money might be harmful economically, a common response is that saving is not a problem because "banks lend on the money of their depositors". As mentioned already in "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility", the expressions of "borrowing" and "lending money" are in general misleading, as credit and debt are not the same as "borrowing" a physical item – like a frisbee for the weekend – from someone. Similarly, saving money on a bank account is not giving something for others to use, but simple gathering credit – expected future favors and goods – from others.

Have you ever heard that anyone would've had some money withheld from their accounts because the bank "lent" that money to someone else? Banks do not lend on anyone else's money[618] – they manage and create new credit relations between people. As you are not borrowing or renting anything from a bank when it has granted you a loan, the interest paid on debts is not "rent for money".[619] It is a compensation for delayed payment and credit risk.

While intuitively we think that people and businesses "make money" – as the American expression goes – when they work or make a profit and that banks would be passing that money on to others when they grant loans, the reality is the exact opposite: Banks "create" money when they make loans, and that money is passed on when people buy products and services or when companies pay wages to their employees. Although for an individual it might look like it, on the level of the whole economy, money is not work somehow magically stored into notes and coins or on bank accounts, but simply receivables from others – credit on them.

This expression that "banks lend their depositors' money" isn't *completely* false: Bank deposits *are* a form of *finance* for a bank, like all other liabilities on its balance sheet. However, "financing" (in the context of corporate finance) does not mean "giving money for something" – but carrying the risks of that something.[620] [621] In this sense, it is the government that is financing banks through its (free) deposit guarantee.[622]

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617 12:22-> & 14:54->, Chick, Victoria, 2013, "Why don't Economists understand money? (Conference 2013)", viewed 4.3.2014, http://www.youtube.com/watch?v=EObtwxpDSzk

618 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

619 E.g. Brett Scott, in his book "The Heretic's Guide to Global Finance", while explaining other financial tools and institutions very well, still obeys this misleading perception of money and interest.
"'Interest rate', for example, could be rephrased as 'the price of renting money'." (Scott 2013, p. 29)
Also Khan Academy (which is otherwise a very reliable source of good education material) explains, misleadingly, the interest rate as "rent for money": – "Money Supply and Demand Impacting Interest Rates", educational video, Khan Academy, viewed 25.10.2013, https://www.khanacademy.org/economics-finance-domain/macroeconomics/monetary-system-topic/interest-price-of-money-tutorial/v/money-supply-and-demand-impacting-interest-rates

620 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks."

621 In some cases, "financing" a project can also be used to refer to paying for its expenses, without getting any claims to any future revenus it might generate, e.g. in asking how a public development project or an electoral campaign should be "financed".

622 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee."

Continued on page 137 ▶

As a comparable example of a misleading, partly true expression, let's consider the following: "The sun and the stars revolve around the Earth". Standing on the Earth's surface, that's what it looks like and from that point of view it can be said to be so. However, a more descriptive expression is that the Earth revolves around its own axis and that is why we see the stars in different directions at different times of the night. The previous "Pre-Copernican", geocentric framework might have for example allowed one star to stop revolving around the Earth or slow down its "orbit". In the "Earth-spinning-around-its-axis" model, we know that such a case would mean that such a "star" cannot be a star (light-years away from us like the others), as it would have to be moving light-years per minute to do so.

Similarly, it is far more descriptive to say that bank "deposits" (and money in general) *are* liquid credit: Credit that banks grant, that they make liquid with their payment services and that is made risk-free (as risk-free as cash and the liquid credit of all other banks) by the fact that it is guaranteed by the government. In this way we see that for saving to be compensated (in terms of economic activity) with bank "lending", someone has to take that "loan" and the result is a decrease in money velocity and an increase in the quantity of money[623] – i.e. the amount of debt and credit in the system. With this framework, we can boldly conclude that saving money excessively – on a bank account or as cash – without intent to use it *is* "keeping others in debt" (though not necessarily involuntarily if the market interest rate is right[624]). Unfortunately, our centuries old protestant work ethic that virtues hard work, frugality and saving does not allow us to consider such a clarifying expression.[625] Instead it allows us to maintain this illusion of money being work somehow magically done into storage. But you can't send a $100 bill on your behalf to work tomorrow or make it do your laundry, can you?

Even when a retail bank engages in "proprietary trading" – buys e.g. shares or other investment products on its own risk – it "creates" the new deposits on the account of the previous owner of the shares. The bank does not exchange any existing asset it has for the shares, but simply credits the seller's account and the new asset (share) and liability (deposit) expand the bank's balance sheet.[626] The expression that "bank's invest or channel on other people's savings/surpluses to productive use" (e.g. Korkman 2012, p. 54)[627] is an extremely misleading expression – a "children's bedtime story" comparable to that of storks bringing babies to married couples. But, unfortunately, it is a story that over 90 % of people (and a majority of economists) still believe literally. Arguing that, in a recession, we need (higher interest rates to encourage) more monetary saving to facilitate real investments makes about as much sense as arguing that we need to tighten the protection of storks to increase human fertility.

Savings held on bank accounts are in no way "in circulation" or "in productive use". This might be a truthful expression in a fictional world where most transactions are made with physical cash, which people actually physically deposit by bringing the cash to a bank teller only for long-term savings purposes and have to withdraw as cash to be able to make any payments to anyone else. This has not been a descriptive model of the real world for over a hundred years.

Misleading expressions and how emotional associations we have with words affect our thinking are discussed in more detail under "5.1.1 Our Emotional Attachment to Words" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

623 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
624 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".
625 This is discussed in more detail in this book's sister, "The Guilt Economy."
626 See: Graph 18.
627 "Firstly, the financial system channels saving into investments or assets from finance-surplused economy units to finance-deficited economy units. It is beneficial for everyone that money can move as a loan or share investment from the former to the latter. Like this, wealth is allocated in a way that supports the efficiency and growth of the economy." (Korkman 2012, p. 54, translated from Finnish)

1.2.7 Banks Need to Be Private Because Risk Has a Market Price

In short:

- *A public (state-owned or municipality-owned) banking system is not incentivized to assess credit risks fairly and would likely result in both reckless lending, unjust discrimination and further corruption and politization of the economy.*
- *A private banking sector could work fairly if banks' risks were really carried by their shareholders and other private investors – and if the real economy was robust enough not to collapse out of the slightest uncertainty shock.*

> "And when you spend your own money on yourself, you are very careful of what you spend it on and you make sure that you get the most for your dollar." ... "Now, what happens when you spend somebody else's money on somebody else? You are distributor of welfare funds. Well, you're interested in making your own life as good as you can. And most people have humane instincts, they want to do the best they can, but you are not going to be anything like as careful in spending somebody else's money on somebody else." – Milton Friedman[628]

So why does the banking system need to be a private industry? Many critics see no reason why private entrepreneurs – or "capitalists" – should be allowed to reap the profits of this "endlessly profitable" business of "creating money out of nothing."[629] Why couldn't "lending" (granting credit) be a public service and all the profits used for public good?

As mentioned, the banking business of granting credit – regardless of whether credit is "expanded" or not – and making other investments is fundamentally a business of managing and pricing risks. Some debtors can always default. Even if we guaranteed that everyone had the opportunity to earn income, people can still lose working ability due to mental or physical illness matter how closely the value of the assets of a compa monitored, a market fluctuation can suddenly drop value below the value of the company's debts before bank has time to call for a liquidation of the assets. liquidation includes selling these assets and such sales can drop their market value yet more than the has estimated. For example, a global drop in the dem for paper can make excess paper machines al worthless, as there are little alternative uses for them.

These risks have to be diversified and covered with hi interest rates that reflect the expected outcome of the obligation – the risk of default. Setting these prices loans and diversifying their portfolio of investments limited to loans – is the business of banks and the ad value they provide to the society (in addition to provid payment services).

The biggest problem with the public sector conduct such risky business is that the public sector is not play with "its own" money – but rather "the taxpay money" – and that its decisions tend to get politici and thereby corruptible and biased.[630] There is nothing guarantee that a governmental agency would assess ri of different loans fairly. Neither does the government h any incentive to make innovations in assessing these ri and might be inclined to give excessively cheap credit a be unnecessarily merciful in forgiving loans – out of political costs: the current politicians in charge fear the loss of the votes of the defaulting clients. Especia under our current job creation paradigm,[631] giving che loans to companies would be very easy to argue politica on the grounds of protecting "jobs that might otherw be lost." The resulting losses will have to be paid out taxes – whatever the mode of taxation – and thus wou unfairly transfer wealth from everyone else to reckle and irresponsible borrowers exploiting the system.

As partial evidence of the risks of such recklessnes Fannie Mae (Federal National Mortgage Association) an Freddie Mac (Federal Home Loan Mortgage Corporatio were government-sponsored enterprises (GSEs) th played a big role in the credit crunch of 2008 – mainly as result of government policy encouraging excessively risk mortgage lending. In addition to granting these sub-prim loans themselves, they were the ones packaging thes loans into "mortgage-backed securities" and "collateraliz debt obligations". Even ones including highly risky "sub prime" mortgages were then given high, up to AA credit ratings by credit rating companies who did no investigate the risks of individual underlying loans. Th

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628 Friedman, Milton, "The 4 Ways to Spend Money by Milton Friedman", an interview with Milton Friedman, viewed 9.9.2013, http://www.youtube.com/watch?v=5RDMdc5r5z8

629 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

630 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

631 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

risks were thought to be backed up by safe assets – the real estate collateral – and that even the risks of individual defaults would be diversified into non-existence by the large of amount of mortgages in each security.[632] These ratings of course ignored the systemic risks of the whole real estate market making a downward correction move simultaneously with increased unemployment and fire sales of apartments. Of course the ratings were likely also affected by pressure from the banks issuing these vehicles – which were the rating companies' paying clients – and governmental authorities, with their populist agendas of promoting homeownership.[633] Ironically, these kinds of financial innovations had awarded Fannie Mae a place as one of the success case example in Jim Collins' cult-status business management book "Good to Great" (2001).

A collection of private companies aiming to maximize profits (and which receive no subsidies or free insurances[634] or bailouts from the government) *could* have every incentive to make sure that risks are assessed fairly so that no debtor can exploit the system to their advantage on the expense of others. That is not to say that a government-run banking system would be impossible, but rather that a private banking system based on free competition with equal rules and that is required to carry its own business risks could provide a far fairer, efficient and stable basis for a financial system (which is not the current situation[635]).

Now you (or at least a "democratic money"[636] advocate) might ask, what prevents banks from reaping excessive profits on the expense of everyone else? In a monopoly situation – as in every line of business that produces a vital service – nothing. But as with any industry, free competition eventually erodes unfair profits by affecting prices (or wages) – in this case by pushing deposit interest rates up and interest rates of loans down (or bank employee wages up). If the profits made by the banking industry are much higher than those of other industries, new banks are likely to be established to reap a part of that profit, which will tighten competition. If competition can't be made to work fairly and efficiently in the banking sector, then of course banking should not be a private industry.[637]

Are there any unfair profits that banks can make on the expense of others? Yes, there are, and they are making them in the current system. Reaping the profits for risks carried by other people could be considered as unfair as any other way of making money that includes passing costs onto others without their consent. As said, risks are costs – and financial risks have a market price. Risks are passed onto others when banks and their shareholders are bailed out – or can be expected to be bailed out – by governments when the banks' "bets go wrong". And the main justification for bailing out overleveraged banks is that they are currently considered "too big to fail". Risks are also externalized when banks leverage themselves with government-guaranteed deposits. These issues and simple solution suggestions to them are discussed in "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

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632 Jarvis, Jonathan, "The Crisis of Credit Visualized", video, viewed 23.10.2013, http://crisisofcredit.com/

633 "Home Ownership and President Bush", speech, viewed 24.10.2013, http://www.youtube.com/watch?v=kNqQx7sjoS8

634 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

635 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".

636 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

637 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous

In short:

- *In today's monetary system, the quantity of money (the "money supply") is determined by how much people and companies are willing to be in debt ("borrow"). The central bank has hardly any control over the total quantity of money in the market – i.e. the money supply is "endogenous" in terms of monetary policy.*

- *The amount of loans made does not affect the price (interest rate) of future loans, meaning that the "supply of money" is infinitely interest-rate-elastic – the supply curve is flat horizontal. In this sense, the central bank can be said to control the "supply of money", as it sets the price of risk-free credit.*

- *Many economists and economic theories have assumed (and still do) the short-term interest rate elasticity of the supply of money to be close to zero – like that of an exogenously controlled or fixed-quantity commodity. This e.g. leads many to believe that increased saving would lower the market interest rate – when, in reality, it does not.*

- *The "supply and demand of money" can mean many things in many contexts and should probably be abandoned altogether.*[638]

> "*In practice however, the central bank has always sought to control the level of interest rates, rather than the monetary base.*" ... "[T]he supply of money is actually determined primarily by the demand of borrowers to take out bank loans." ... "[T]he relationship between available bank reserves (deposits at the central bank) and commercial bank lending/deposits can break down entirely." – Charles A. E. Goodhart, Foreword to "Where does money come from?" (Ryan-Collins et al 2012, p. 3)

> "[T]here is no way for the central bank to simply 'increase the supply of money' to raise aggregate demand. This is why those who adopt the endogenous money approach reject ISLM-type analysis in which the authorities can eliminate recession simply by expanding the money supply and shifting the LM curve out." – L. Randall Wray (2001, p. 3)

> "So the conventional wisdom in Galbraith's view must be simple, convenient, comfortable – though not necessarily true. It would be silly to argue that the conventional wisdom is *never* true, but noticing, perhaps where the conventional wisdom may be false – noticing, perhaps, the contrails of sloppy or self-interested thinking – is a nice place to start asking questions." – Steven D. Levitt & Stephen J. Dubner, Freakonomics (2005, p. 86).

One of the most sticky, faulty assumptions in many schools of economic thought is that the short-run price (i.e. interest rate) elasticity of money would be close to zero. This assumption is behind the market mechanism that should bring interest rates and the credit market to equilibrium in neoclassical economic models (e.g. Fisher 1930, p. 44) and e.g. the LM curve in the IS/LM model. (Krugman 1999-2)[639] It is also assumed by monetarist

638 See footnote 654.

639 "Since the classic 1937 paper by Hicks, it has been usual to summarize short-run equilibrium in such an economy by looking at two curves: a downward sloping IS that shows how lower interest rates increase the demand for goods and hence real output y; and an upward-sloping LM curve that shows how increased output, by increasing the demand for money (whatever exactly that means in the modern world), drives up the interest rate. Monetary policy shifts LM, fiscal policy shifts IS." (Krugman 1999-2)
The LM curve (L = liquidity preference, M = money supply) in the IS/LM model shows possible points of balances in terms of the of total economic activity (Y) and the interest rate (i) as determined by the money supply and people's liquidity preference. The curve is rising, suggesting that if the economy grows or people's liquidity preference grows, but the money supply doesn't, this would mean rising interest rates (or require them to prevent hoarding of cash). As bank deposits are nowadays the most liquid form of money, the fear of an increased liquidity preference drawing money out of banks' balance sheets no longer applies. As banks can extend liquid credit without any limitation and can borrow more reserves (that are only needed for clearing transactions to other banks), the assumption of an exogenously determined money supply no longer

theories, which emphasize the importance of the quantity of money in determining the price level[640] and assume that the central bank has control over this quantity (that the money supply would be "exogenous").

The mental image that money is some kind of substance of fixed quantity, which is accumulated in banks when agents "save" and then "used up" in making loans, and that the amount of saving hence restricts the amount of "loans" that can be made, and that increased borrowing or reduced saving will automatically raise the interest rate to bring these two into balance, is prevalent even in the theories used to guide monetary policy[641]:

> "[R]eal interest rates will rise to the point that private borrowing is reduced sufficiently to allow the entire requirements of the federal ... deficit ... to be met." ... "Even if private investment were not as interest-elastic as it appears to be, crowding out of private spending by the budget deficit would occur dollar-for-dollar if the total supply of saving were fixed." (Greenspan 1989, p. 52-53)

> "Government spending and transfers shift toward consumption some resources that the private sector might otherwise invest. Government spending financed by borrowing absorbs private savings unless the private sector acts to offset the saving reduction." (Council of Economic Advisors 1989, p. 124)

> "In this view (henceforth, the orthodox view), unless saving rises as government deficits increase, investment will be crowded out because of price or quantity constraints on finance." (Wray 1989, p. 978)

While Post-Keynesians[642] are nowadays the most prominent preachers of Modern Monetary Theory, which well explains the credit nature of our current monetary system, the assumption of an exogenously determined money supply was strongly present also in John Maynard Keynes's General Theory:

> "(i) [M]oney has, both in the long and in the short period, a zero, or at any rate a very small, elasticity of production, so far as the power of private enterprise is concerned, as distinct from the monetary authority ... Money, that is to say, cannot be readily produced;– labor cannot be turned on at will by entrepreneurs to produce money in increasing quantities as its price rises in terms of the wage-unit. In the case of an inconvertible managed currency this condition is strictly satisfied." (Keynes 1936, p. 145)

> "For the amount of hoarding must be equal to the quantity of money ... and the quantity of money is not determined by the public." (Keynes 1936, p. 111)

> "The quantity of money as determined by the action of the central bank..." (Keynes 1936, p. 156)

For example Keynes's emphasis on "liquidity preference" in determining the interest rate[643] draws from this assumption – that "making a loan" requires someone else having to part with the liquidity of her credit.

There might have been some truth to this assumption before electronic banking, when cash was the most liquid form of credit, but even then the central bank had no direct control over retail banks' "expansion of credit". In today's world, the situation is quite the opposite: Electronic bank account deposits are far more liquid than cash and money is completely *endogenous* – meaning that the central bank has little control over its quantity. The interest rate elasticity of the "supply of money" is practically infinite: The interest rates on new loans are not affected by the total amount of loans made by the banking sector so far.

Of course interest rates start rising on loans to debtors who start accumulating significant debts beyond the market value of their assets and their credible future ability to earn income, as their default risks rise. But the price of *risk-free* credit is quite directly determined by deposit interest rates and the central bank's policy interest rate (which finally also determines the overall level of deposit interest rates[644]).

In 1898, Knut Wicksell, who accepted the Quantity Theory of Money (the assumption of a stable long-term circulation velocity of money[645] [646]) in a "pure cash economy,"[647] pointed out how the dynamics of the system change significantly when transactions can be made directly between bank accounts, and theorized a "pure

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applies.

640 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

641 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

642 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

643 See: "Sidenote Box 118A: Keynes's Liquidity Preference Theory is Outdated".

644 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

645 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

646 "Wicksell, from the outset, regards the problem as concerning explicitly the average change in the price of goods, which from the theoretical standpoint is quite irrelevant. He starts from the hypothesis that, in the absence of disturbing monetary influences, the average price level must remain unchanged." (Hayek 200, p. 57-58)

647 "From Ricardo, he took the Quantity Theory which he regarded as a 'completely sound and correct' (Wicksell, 1898a, p. 49) theory of the price level – for a pure 'cash economy'. The demand for cash, Wicksell noted, varies only 'within fairly narrow limits' and cash money 'cannot circulate ... faster than a messenger boy can run' (Wicksell, 1936, p. 54)." (Leijonhufvud, p. 1)

credit economy", without any "money". Today, developed countries practically *are* such "Wicksellian" "pure credit economies," where "all payments are made by transfers between bank accounts, and in which all deposits earn interest" and "[l]oans make deposits whose volume is not limited by any cash constraint". (Boianovsky & Trautwein, p. 3; Wicksell 1936, p. 70-76)

> "With today's technology, you could buy a cup of coffee by swiping a card or tapping a cell phone, selling two dollars and fifty cents of an S&P 500 fund, and crediting the coffee seller's two dollars and fifty cents mortgage-backed security fund. If money (reserves) are involved at all – if the transaction is not simply netted among intermediaries – reserves are held for milliseconds." (Cochrane 2014, p. 3-4)

In today's system, contrary to what Keynes insisted, the quantity of money *is* determined by the public. Although many activist groups opposing our current banking system[648] like to say that private banks control our money supply, the banks only evaluate risks of loans and set the risk premiums for which they are ready to carry those risks. Finally, it is people and companies who decide how much they want to take on debt at the rates offered to them. As banks aim to maximize their profits, they will make any loans the margins of which are worth the risks involved. If one bank doesn't, its competitors will.

The central bank can, theoretically, set an upper limit to the amount of "loans" granted (and hence "money created") by private banks by setting reserve requirements (e.g. as a minimum percentage of liquid deposits, as it has in the U.S.[649]) and refraining from granting banks new loans of central bank money. This could force a bank to borrow reserves from other retail banks if it wishes to continue lending after it has reached its reserve limit. In such a case, a high demand for loans might push interest rates up. But as long as the central bank is willing to lend to banks directly, this lending rate is what determines the risk-free market rates. During the 1990s, reserve requirements were either eliminated completely (Belgium, Denmark, Sweden, Canada and New Zealand) or significantly lowered (UK and the Netherlands) or regulation thereof slackened (USA, Italy, Germany, France and Spain). (Di Giorgio 1999, p. 1032) After the financial crisis of 2008, as a part of attempts to stabilize the financial sector and ensure its liquidity, reserve requirements have been tightened, but, on the other hand, the central bank has opened its loan taps to banks directly and started paying interest on central bank deposits, making the money supply, again, completely endogenous.

Regardless of for example Post-Keynesian economists[650] and other Modern Monetary Theory researchers clearly analyzing and presenting this explicit credit nature of euros and dollars, the assumptions inherited from a world of notes and coins still stickily persist in many economic models used in modern research.[651] This serves as one example of how slow a discipline economics is at evolving – probably partly due to its highly segregated and fundamentalist nature.[652]

Two terms that are easy to misunderstand and confuse – and which economists also use very sloppily[653] – are "money supply" and "the supply of money". The "money supply" usually refers to the "quantity of money". In today's money system, this is not a self-explanatory expression either, as we could be talking about any of the different "monetary aggregates" such as MB, M1, M2, M3 and M4, which are measures for the total amount of credit in the market meeting specific liquidity (and other) specification.

In this sense it is a false statement to say that the central bank controls "the money supply". However, the central bank can be said to control "the supply of money". As explained in "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand", supply is the supplied amount of something as a function of price. An "increase in supply" can be interpreted as the supply curve either shifting "right" or "down". When the price elasticity of supply of something (in this case money, i.e. credit) is infinite, the supply curve is practically flat horizontal – i.e. the price (in this case the interest rate for new credit) is the same regardless of quantity (the total value of existing debt contracts). In such a case, "increasing the supply of money" just means lowering its price – shifting the supply curve downwards. As economists are not very careful to avoid such double-meanings, the "supply of money" is often used synonymously with "money supply" (its quantity), and when John Taylor writes that "using an interest rate rule does not eliminate the concept of money demand and money supply; it simply makes money endogenous", (Taylor 1999, p. 9) by "money supply" he seems to be meaning "the supply of money".[654]

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648 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

649 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

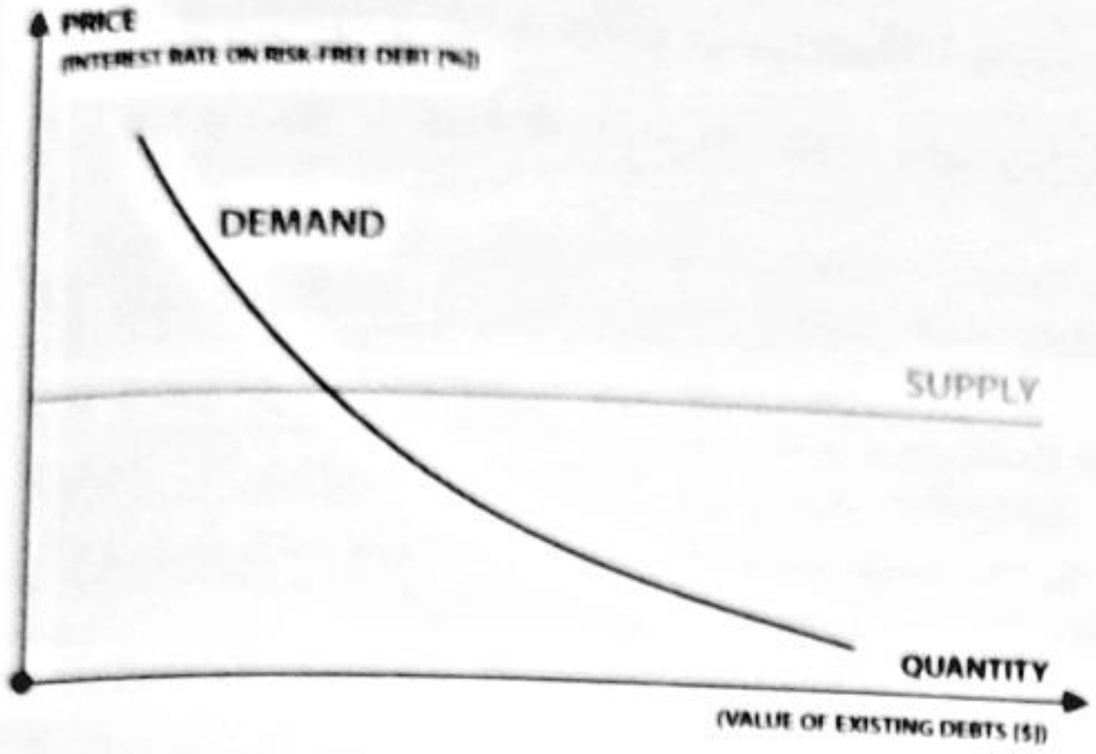
650 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

651 E.g. "We assume that money demand arises from the need to carry out transactions and depends positively on aggregate output and negatively on the interest rate. The supply of money is determined by the balance sheet of the central bank and is exogenous." (McKibbin & Wilcoxen 2009, p.10)

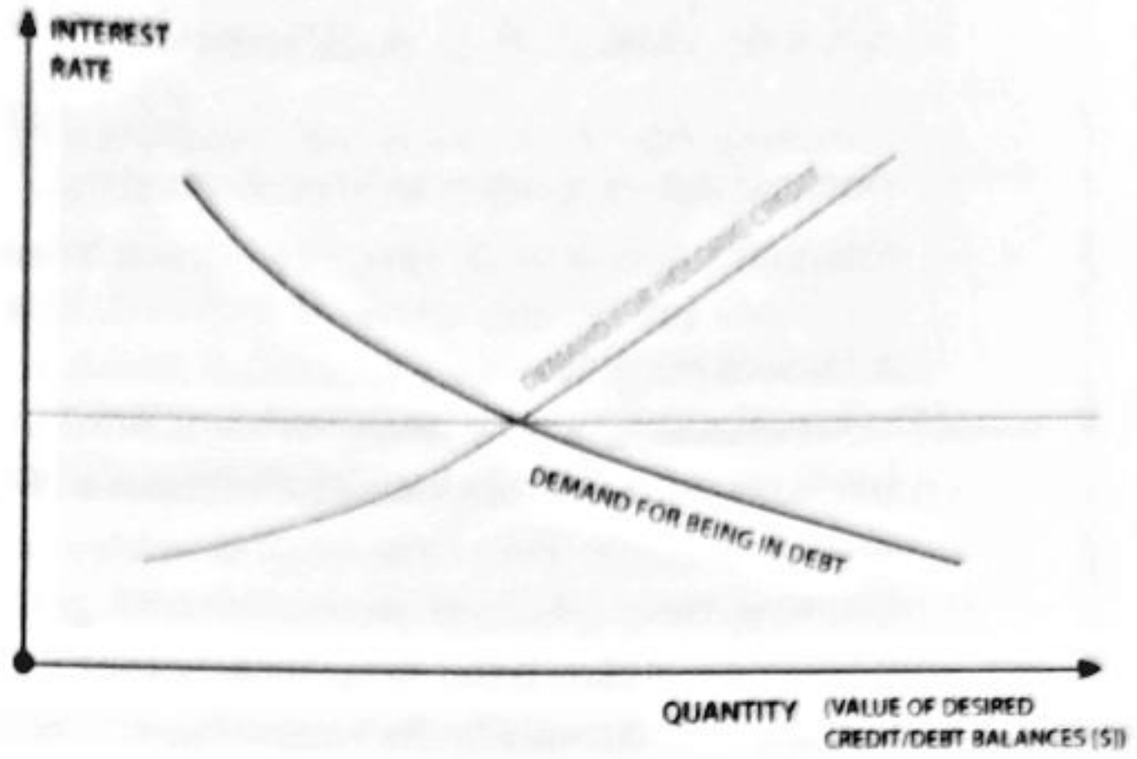
652 See: "5.2.4 The Religious Nature of Economics and Politics" and "5.2.1 The Personal Nature and Incentive Traps of Academia".

653 E.g. "[U]sing an interest rate rule does not eliminate the concept of money demand and money supply; it simply makes money endogenous." (Taylor 1999)

654 There would be good reason to abandon the concepts of the "supply and demand for money" altogether, as they can mean many, very different things. Essentially the "supply" of something is its "supplied quantity as a function of its price" (see: "1.1.6 The 'Market Forces' – How Prices



GRAPH 19: THE SUPPLY OF RISK-FREE CREDIT – MONEY – IS INFINITELY INTEREST-RATE-ELASTIC IN OUR CURRENT CREDIT MONEY SYSTEM.



GRAPH 20: THE (VOLUNTARY) 'DEMAND FOR BEING IN DEBT' AND THE 'DEMAND FOR HOLDING CREDIT'.

It is easy to assume that lowered interest rates always cause more loans to be taken[655], but this is a rather misleading conclusion. In addition to making it cheaper to be in debt, lowering interest rates also makes it less profitable to hold on to credit and the resulting spending can also facilitate paying debts back faster for debtors (as will be discussed in more detail in "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash"). This practically shifts the demand curve for credit (loans) – which might not be very short-run-price-elastic in the first place – left (or down) by reducing involuntary indebtedness (such as an unemployed person being stuck with a student loan she would really want to pay back) and hence the quantity of credit might be *decreased* in the longer run by a lowered interest rate. Lower interest rates can help deleverage an economy with massive amounts of debt.

The other way to see this is that we only take the voluntary component of the above "demand for credit" and call it (more descriptively) the "demand for being in debt" and add to the picture the "demand for holding credit". The central bank is then simply keeping these in balance by controlling the cost of "being in debt" and the profitability of "holding credit", by controlling the interest paid on risk-free credit and charged for having risk-free debt – the market interest rate.

And we need the central bank to do this because there is no working market mechanism (thus far discovered that the author knows of) for keeping the credit market in balance.[656] How this can influence the general price level (and changes thereof, i.e. "inflation") by affecting the aggregate supply and demand for labor and other real resources, is explained in "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

How our lingual expressions relating to money – especially the "conceptual metaphor" we use for it – are strongly reinforcing and helping maintain these misunderstandings, is discussed further under "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

Balance Supply and Demand"). In the case of the "supply of money", the "supplied quantity" can mean:

a) the quantity in existence (which, as mentioned, can be defined as many monetary aggregates)
b) the quantity currently offered for trade (i.e. the demand for other goods in money (Gesell 1916, Part 3, Ch. 10))
c) the quantity of new credit ("loans") that can be granted

and the "price" can be:

1) the interest rate of risk-free credit
2) the purchasing power of the unit of credit (e.g. the dollar or the euro), the change in which is "inflation" (see: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money").

In this chapter, we have mostly meant "c-1" when talking about "the supply of money being infinitely interest-rate-elastic". In chapter 1.3.5, we will also talk about "the supply and demand for money" in the sense of the relation between its quantity and its purchasing power (a-2) – one of the most mistaken and blindly assumed causalities in the history of economics.

655 E.g. Paul Krugman (along other New Keynesians and monetarists) still likes to draw this connection between the interest rate and the money supply, maintaining the illusion that the central bank has a strong influence over the money supply: – "A Teachable Money Moment", NY Times, The Opinion Pages, 2nd Apr 2012, cited 5.4.2013, http://krugman.blogs.nytimes.com/2012/04/02/a-teachable-money-moment/

656 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'" and "2.2.2.1 A Single Precious-Metal-Standardized Currency".

Sidenote Box 128A: Additional Reading on Money, Credit and Banking

- "Banking 101, Root-Debugged", https://www.youtube.com/watch?v=KLqYnW1RmDE (if the url has changed due to updates, refer to rootbug.org)
- Mitchell-Innes, Alfred, 1914, "The Credit Theory of Money", From The Banking Law Journal, vol. 31, Dec./Jan., pp. 151-168, retrieved 23.5.2013, http://www.ces.org.za/docs/The%20Credit%20Theoriy%20of%20Money.htm
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657 There are little grounds for the assumption that the circulation velocity of credit granted for other than speculative purposes would be constant in the long run. See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level - And Has Little to Do with the Quantity of Money".

1.3 INVESTMENT, SAVING AND ECONOMIC GROWTH

1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'

In short:

- *Economic growth is the increase in (the value of) the production of paid products and services. It does not necessarily involve an increase in wealth (material nor monetary) nor the growth of anything physical.*
- *As nothing is produced for long if it isn't consumed, economic growth – in today's world – is largely determined by consumption. Also real investments increase demand – grow the economy – but the need for real investments is determined by expected future consumption (and the capital intensity allowed by technological progress).*
- *When a fixed amount of work per person (and a matching consumption) is assumed, it is easy to think that economic growth is "caused" by population growth and labor productivity growth, as (with those assumptions) labor is the bottleneck resource for how much can be produced.*

"Not only is it requisite in economic reasoning to give to such words as 'wealth,' 'capital,' 'rent,' 'wages,' and the like, a much more definite sense than they bear in common discourse, but, unfortunately, even in political economy there is, as to some of these terms, no certain meaning assigned by common consent, different writers giving to the same term different meanings, and the same writers often using a term in different senses." – Henry George, Progress and Poverty (1912, p. 30)

"The wealth of a nation can scarcely be inferred from its national income." – Simon Kuznets

"That is prosperity: The saving of time in satisfying your needs. Ask yourself how long you would have to work to provide for an hour of reading light this evening to read a book by?" – Matt Ridley, When Ideas Have Sex[658]

"I'm fascinated by a question and I know I'm not the only one. What should economies be aimed at? ... Well, I studied economics at university twenty years and we never actually asked that question, even though it seems like a very fundamental one, because the answer was a given. It was economic growth." – Kate Raworth[659]

The most common definition of "economic growth", in economics, is **an increase in production of valuable goods**. A lot of confusion is caused by the fact that economic growth is also sometimes defined as "the process by which a nation's wealth increases over time", as e.g. Encyclopaedia Britannica does.[660] These are conflicting definitions, as "wealth" usually means an increase in the value of the assets a person holds (or in the case of a nation, is held in net by everyone). E.g. the Merriam-Webster dictionary defines wealth as:

> "a : all property that has a money value or an exchangeable value
>
> b : all material objects that have economic utility; especially : the stock of useful goods having economic value in existence at any one time <national wealth>"[661]

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658 5:55->, Ridley, Matt, 2010, "When Ideas Have Sex", TED Talk, viewed 12.12.2012, http://www.ted.com/talks/matt_ridley_when_ideas_have_sex.html

659 0:27->, Raworth, Kate, "Doughnut Economics: Creating a safe and just space for humanity", viewed 18.6.2013, http://www.youtube.com/watch?v=CqIL-cM8gb4#

660 "Economic growth", entry, Encyclopaedia Britannica, cited 10.9.2013, http://global.britannica.com/EBchecked/topic/178400/economic-growth

661 "Wealth", entry, Merriam-Webster Dictionary, cited 10.9.2013,

Georgists define "wealth" as:

> "[a]ll material things produced by labor for the satisfaction of human desires and having exchange value."[662]

On the other hand, what Adam Smith talked about as the "wealth of nations" was the nations' (material) living standard – its total *real income*.[663] This definition of "wealth" is more understandable in the, nowadays obsolete, meaning of the word "wealth" as "well-being" or "weal", which means "a sound, healthy, or prosperous state"[664]. Misunderstandings are often further enforced when translating between different languages.[665] No wonder Tim Jackson (2009) had to write a whole book about questioning the assumed unbreakable connection between "prosperity" and "growth".

Further confusion is caused by the fact that even in the context of economics, "economic growth" is sometimes defined as "an increase in the *capacity* of an economy to produce goods and services" (*italics* added)[666] [667]. This is, however, slightly contradictory with the fact that, in mainstream economics, economic growth is usually pursued in order to "close output gaps" – differences between actual production and potential production (i.e. the capacity to produce).[668]

In this book, by "economic growth", we mean an **increase in the market value of annually produced and sold goods and services**. The value of production is "the size of the economy."[669]

And this is not the same as an increase in "wealth" – by which we mean (along the modern meaning of the word) "net market value of assets." Of course, increased *expected demand* in the future can, and often significantly does, increase the *value* of productive capital assets and the market values of companies' shares, as the value of capital assets is determined by its potential future profit yields.[670] However, this increase in value is not directly a function of current production, but of expected future production.[671]

The most common measure of the size of the economy and economic growth is the real gross domestic product (GDP) – the real value of goods and services produced annually within a country – an increase in which is what is usually meant by "economic growth" (e.g. when news articles say that, "the U.S. economy is expected to grow by 2 %"). Nominal GDP (NGDP) is the monetary value of the goods and services produced and when this is corrected for inflation[672] we get "real GDP".

"Gross national product" (GNP) focuses on the things produced by a nation's citizens (rather than within its borders) taking into account income from labor done abroad. "Gross national income" (GNI) additionally takes into account factor income balances:[673] how much interest and dividends are paid out of the country and how much into it from other countries[674].

GDP does not include the goods or services that are not paid for, such as household chores or voluntary work. Hence it does not fully encompass the (development of) all value produced and experienced in the economy. Interestingly, if some kind of service has previously been paid for and that specific service then becomes cheaper (e.g. as a result of increased productivity), it remains with the same value in real GDP. If, instead, it is offset or replaced by some other free service (like Google Translate might eat some of the market of professional translation services), it is no longer visible in GDP. Such invisible increases in value are one factor that significantly distorts measurements of productivity increases – especially in

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662 http://www.merriam-webster.com/dictionary/wealth

663 "Economics and "Political Economy", Henry George Institute, cited 18.6.2013, http://www.henrygeorge.org/def2.htm

664 The book starts by the words:
"The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniencies of life which it annually consumes, and which consist always either in the immediate produce of that labour, or in what is purchased with that produce from other nations.
According, therefore, as this produce, or what is purchased with it, bears a greater or smaller proportion to the number of those who are to consume it, the nation will be better or worse supplied with all the necessaries and conveniencies for which it has occasion." (Smith 1776, p. 8)

665 "Weal", entry, Merriam-Webster Dictionary, cited 10.9.2013, http://www.merriam-webster.com/dictionary/weal

666 E.g. "(economic) prosperity" is often translated into Finnish "vauraus", which is closer to "wealth". A more direct translation of "prosperity" would be "menestys", which in turn is more often equated with a more general "successfulness". The name of the Finnish translation of the "The Wealth of Nations", "Kansojen varallisuus", is not just misleading but plain wrong. "Varallisuus" rather explicitly refers to one's property. E.g. "net assets" is "nettovarallisuus". "Vauraus" could have been interpreted also as living standards and is the most common translation for "wealth" also in the modern meaning.

667 "Economic growth", Investopedia, definition, cited 10.9.2013, http://www.investopedia.com/terms/e/economicgrowth.asp

668 "Economic growth", Business Dictionary, definition, cited 10.9.2013, http://www.businessdictionary.com/definition/economic-growth.html

669 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

670 We could also see it as an increase in the amount and value of trade, economic transactions – except that not all transactions are included, but only those implying production of new consumable goods or new assets. For example investments that are divestments of others and vice versa – i.e. buying and selling of existing assets produced earlier, e.g. financial assets, real estate or secondhand goods – are not regarded as a part of the "size of the economy" in this sense, nor are loans made and paid back.

671 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

672 The relation between total consumption and total wealth is discussed in: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero - Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

673 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

674 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

675 See: "Gross National Income", definition InvestorDictionary.com, cited 24.10.2013, http://www.investordictionary.com/definition/gross-national-income

services, where it is almost impossible to compare the "real value" produced by two different services.[675]

It is very likely that during the last two decades, when digital services have taken over many markets, economic growth (the increase of real value produced) and labor productivity development have actually been much higher than measured, while inflation, if we measure it by the living standards achievable with the same nominal amount of monetary income, has not been as high as suggested by consumer price indices[676] – we get many new things relatively for almost free.

On the other hand, it can be debated if some services that are almost purely "distributive" in nature[677] actually produce real value. Distributive activities between companies (such as patent wars[678]) are reflected in consumer prices of the goods they produce and are therefore accounted for in indices, but for example an increase in purchased divorce lawyer services – the cliché example of a "distributive" activity – does not raise the prices of other products and rather shows up as an increase in both real and nominal GDP. Similarly, if people have been made more dependent on medicines as e.g. a result of the side effects of other medicines, we can debate whether overall value produced has increased.[679]

Different schools of economics and even individual academics have very different views of what causes economic growth – even if they agreed on the definition. Some strongly believe it is caused by technological innovation allowing productivity increases. George Solow of MIT is one example. Joseph Schumpeter's expression that capitalism progresses through "creative destruction" (Schumpeter 1954), can also be seen to support this view (e.g. Jackson 2009, p 63) although "progress" does not necessarily imply growth or an increase in anything, but rather the emergence of a "new economic order". Some say that the cause of growth is "investments" and some "saving" or "capital accumulation." Some (especially classical economists) attribute it mainly to population growth. And none of these are completely erroneous.

As explained in "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units", things only have value if someone consumes them, and therefore things are usually not produced (except by a wasteful public sector e.g. focusing on maintaining employment,[680] or some other party using others' money) unless they are expected to be consumed by someone. Hence, global economic growth is more determined by total consumption than by anything else.

Of course the economy's capacity (and willingness) to produce – the availability of the factors of production – can also be a bottleneck for economic growth. As most capital is produced (or extracted, in the case of natural resources) with human labor,[681] labor productivity is often the most significant bottleneck. Natural resources are limited, but their extraction becoming more difficult can practically be seen as a decrease labor productivity. More can only be produced per person, if (a) people work more, or if (b) labor productivity increases. The supply-oriented views of economics focus on getting people to work more, but it is noteworthy that this only increases growth in a closed economy if we assume people to be willing to consume more as well.

In many Western countries, the total amount of work has remained fairly stable for decades, and therefore economic growth has largely followed technological progress that allows increases in labor productivity. So, with the assumption of a fixed amount of work per person, it is understandable to conclude that "economic growth (per capita) is caused by technological development". However, the verb "facilitate" or "allow" would fit in better than "cause".

> "Change the comparison set and you change the cause." (Pinker 2007, p. 214)

For more on the conundrum of causality, see: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

Historically – especially during industrialization – new production technologies have often also been more capital-intensive[682] than previous ones, meaning that they require more work upfront – i.e. investments – to build the required facilities, machinery and other tools used. Usually, making these investments requires savings upfront by the investors for *equity*[683] to carry the business

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675 See also: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

676 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

677 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

678 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".

679 Some go as far as to say that the fact that new "needs" are constantly created for people through marketing erodes any value produced to fulfill those needs (e.g. Galbraith 1958), but here "value" and "happiness" are confused with "satisfaction". The distinction between happiness and satisfaction is discussed in "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness", the trouble with GDP as an objective in itself is discussed in "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate" and the ethics of "creating needs" is debated in this book's sister, the Guilt Economy.

680 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

681 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

682 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

683 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

risks because creditors are seldom willing to carry all of it (even on high interest rates).

But savings can only be considered to be the *cause* of economic growth if there really is a deficit of capital, i.e. an overall deficit of labor,[684] which pushes up the equilibrium interest rate and the resulting high costs of capital are the biggest obstacles to making investments that would allow increases in productivity. And that pretty much was the case in the 18th and 19th centuries. Currently, we have chronic oversupply of saving.

"People somehow distinguish just one of the necessary conditions for an event as its *cause* and the others as mere *enablers* or helpers, even when all are equally necessary. The difference does not lie in the chain of physical events or in the laws they follow, but in an implicit comparison with certain other states of affairs (similar possible worlds, if you will) that we keep in our minds as the reasonable alternatives to the status quo. Since oxygen is pretty much always around, we don't think of its presence as a cause of a match igniting. But since we spend more time not striking matches than striking them, and feel that it is up to us at any moment whether we strike or not, we do credit the striking as a cause. Change the comparison set and you change the cause." – Steven Pinker, The Stuff of Thought (2007, p. 214)

684 See "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply"

1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)

In short:

- *In our current monetary system – just like any credit accounting system – total debts equal total credits. Everything owed is owed to someone else.*
- *Total wealth in the global economy can therefore only grow in the long run as real assets.*
- *The total value of real assets in the economy largely depends on expected future consumption and the capital intensity of currently used production technologies.*
- *The value of non-producible natural assets (and monopoly industries) is also affected by the market interest rate. The inverse relationship between the market interest rate and a company's share price (or the market value of a resource) could possibly be used as a "monopoly indicator".*

"Money is no more synonymous with capital than it is with wealth." – John Stuart Mill, Principles of Political Economy (1848, Book 1, Ch. 4, Sec. 1)

"A credit cancels a debt; this is the primitive law of commerce. By sale a credit is acquired, by purchase a debt is created. Purchases, therefore, are paid for by sales." – Alfred Mitchell-Innes (1914)

"As, no matter how much water is poured in, there can never be in a bucket more than a bucketful, so no greater amount of wealth will be used as capital than is required by the machinery of production and exchange that

> under all the existing conditions – intelligence, habit security, density of population, etc. – best suit the people. And I am inclined to think that as a general rule this amount will be had – that the social organism secretes, as it were, the necessary amount of capital just as the human organism in a healthy condition secretes the requisite fat." – Henry George, Progress and Poverty (1912, p. 59).

Now, even though we've made a clear distinction between the amount of production (the increase in which we call "economic growth") and the value of net assets in an economy ("wealth"), these two are connected. Wealth (as in net assets) can practically exist in the following forms (see: Graph 8):

- Credit on others.
- Stores of consumable goods.
- Production goods.[685]
- Privileges and limited resources.

For an individual, savings is of course what determines his wealth – net assets, the value of his possessions. An individual's or a nation's wealth can grow as monetary assets, as he/it saves up credit obtained from other individuals or nations.[686] But total wealth – i.e. net savings – in the whole global, closed economic system can only grow as real assets.

As explained in "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", our current credit money system is an accounting system of debts and credits. It is a closed system in that total credits always equal total debts. Any mismatch is the result of accounting errors, which are fixed eventually by writing them off as e.g. credit defaults when they are discovered.[687]

It is important to note that when each debt obligation is made, the conditions are of course the same for both the debtor and the creditor: e.g. "a lump sum payment in one year's time" or "a debt repayable at any time with monthly accumulating interest". Therefore the sums of specific types of credit always equal the sums of those kinds of debts.

Banks are mainly intermediaries in these credit relationships, as they are largely financed by credit, including bank deposits.[688] But of course, the conditions of the loans it makes – which form a significant part of its assets – differ from the conditions of its liabilities. Therefore, in the market outside the banks, the amounts of credit and debt of specific terms don't necessarily match: There is usually more liquid credit than there is liquid debt – as mainly only banks have liquid debt (government-guaranteed deposits).

As presented in "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral", one distinction that can be made in types of money in our current system is into "central bank money" (also called "the monetary base" and "high-powered money", (Cagan 1965; Wray 2001, p. 2) and commercial bank money (also called "checkbook money"). Cash and electronic central bank money are issued by the central bank and are mainly backed by government debt, but also partly by retail banks' debt, as retail banks can also borrow from the central bank. Most money in the system is retail bank money – credit in retail banks' books. Central bank money and checkbook money can both be regarded as separate, closed systems.

Retail bank credit is often classified according to its liquidity:[689] how easily and fast it is transferable from one account and convertible into other assets. What credit is included in different "monetary aggregates" vary between countries. Usually M1 is the most liquid aggregate, which includes all cash in circulation (not in bank vaults) and the most liquid (withdrawable overnight) bank account deposits. M2 also includes less liquid savings deposits and M4 usually refers to all credit denoted in the currency in question.[690]

The important thing to understand here is that **there is no external party whom mankind can owe anything in monetary terms.** All debt is debt to some other human or manmade institution that holds the equivalent sum of credit (on terms matching that of the debt) and any default or exchange risks that apply to the debt, also apply to the credit. Regardless of whether you believed in God or an Original Sin kind of indebtedness, God does not accept dollars or euros as payment for these (God does not have an account in any of our banks or a place to

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685 See also: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?".

686 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

687 An example of such accounting errors is the destruction of physical cash: the government still owes the central bank, but suddenly the central bank owes one dollar less (than it thinks it owes) to the general public. Credit defaults in the case of e.g. mortgages or bankrupt companies do not cause a mismatch, because both the credit and the debt are written off. The situation equals transferring some of the profits of the creditor, the bank, to the debtor rather than its shareholders.

688 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

689 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability".

690 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

hold cash), but that would be a whole other closed debt system, with no exchange rate in terms of base money or checkbook money. Yet, this sticky kind of feeling of the inherent evil of debt and the omnipotent virtue of saving is something deeply entrenched into our subconscious. How these morals based on the "Protestant work ethic" are preventing us form seeing the kinds of solutions presented here, is discussed in detail in this book's sister "The Guilt Economy – Rage Against Our Medieval Money Morals".

Neither can we "owe future generations" in monetary terms (though the rhetoric used by many politicians likes to insist that we could). We can impose costs on our future selves and other future populations by destroying natural resources and other real assets, but all of our monetary debts are debts to some currently existing person or institution. Of course the debt *is* an expected future *payment*, but the *debt* itself is present debt.[691]

A major implication of this is that the amount of debt in the system can only decrease if net creditors buy services from net debtors – or forgive these debts, which could be seen as "buying air" from them, i.e. paying them for nothing. Therefore all credit crises, where there is too much debt in the economy, are also savings crises. The only way to solve them is that holders of credit – including money and government bonds – spend off these savings or invest them into real assets. Of course debtors will have to sell services (e.g. constructing those real assets), but they cannot do so if no one buys them.

On the other hand, if all debts were paid off, money and all other savings as monetary assets (credit) would disappear as well. Unlike many activist groups demonizing credit money (including the Zeitgeist Movement[692]) insist, the central bank charging interest does not take any money out of the system in the long run either or create unrepayable, "perpetual debt."[693] The central bank pays its profits back to the government – or governments in the case of a monetary union like the EU.

The national economies of countries are of course not closed economic systems and can owe each other, as will be explained in "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage". But in net, the global economy cannot grow richer as monetary assets. Monetary assets (debts and credits) are a zero-sum game.

691 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

692 17:20->, "Zeitgeist – Addendum", movie, cited 10.9.2013, http://www.youtube.com/watch?v=3X4hwQzTTLA

693 See: "3.1.2.1 The Perpetual Debt Hoax, a.k.a. The Fallacy of Unpayable Interest".

Total wealth in the economy can, therefore, only grow as stores of consumable goods and production goods[694] (and privileges and limited resources). So what determines the total value of production goods and other productive capital in the economy?

- Expected future consumption and
- the capital intensity of currently used production technologies.

Why? Because capital *is* essentially things facilitating future benefits.[695] If no one is expected to consume (use and appreciate) any future goods and services, nothing that facilitates their production has any value.[696] So if future average annual consumption is expected to be 100 T$ and the capital intensity of the goods consumed is on average 2,5 (years), then the real value of current real capital is 250 T$.

Now, this is actually just an *identity* (a tautology, a restatement of the same thing), as "capital intensity" for a company is *defined* as *Assets / Sales*, which would make it *NetAssets / Consumption* for all capital in the whole economy. Hence, obviously and necessarily, *NetAssets = Consumption * CapitalIntensity*. But it is a relevant implication of this identity that, essentially, future consumption and the types of technology used determine the total "wealth" available in the economy – as long as we assume that all capital is producible with human labor.[697]

694 In most cases storing end products makes little sense, as they decay or become outdated and the storage involves costs – and their value is dependent on future consumption just as much as the value of productive equipment.

695 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

696 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

697 It is quite odd how many economists have considered the observations "that saving rates are higher where growth is higher" (Deaton 2005, p. 2) to be supporting Franco Modigliani's life-cycle theory of consumption: that wealth is mainly accumulated by people saving in their early years to be spent off in their retirement years and hence:

> "If incomes are growing, the young will be saving on a larger scale than the old are dissaving so that economic growth, like population growth, causes positive saving, and the faster the growth, the higher the saving rate." (Deaton 2005, p. 2)

And even odder it is that this is considered a "non-obvious prediction". (Deaton 2005, p. 0 & 2) Even if Modigliani's assumption regarding people's saving *preferences* were true, in a closed economy, net saving can only occur as real investment (see: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing") – or as a rise in the value of existing (monopoly) assets, which can be classified as a kind of simultaneous saving and investing. And net real investment only makes sense (and the value of monopoly assets can usually be expected to rise) if future consumption is expected to grow (or the capital intensity facilitated by technology somehow increases dramatically).

> "[T]he extent of effective saving is necessarily determined by the scale of investment..." (Keynes 1936, p. 236)
>
> "New capital-investment can only take place in excess of current capital-disinvestment if future expenditure on consumption is expected to increase." (Keynes 1936, p. 71)

Therefore an observed correlation between growth and net savings is very understandable and cannot be considered evidence for or against a theory of *who* saves and who doesn't. But as Karl Popper writes:

As long as this "producibility assumption" holds, it is also important to note that the interest rate should have no direct effect on the long run net wealth (the market value of total assets[698]) in the economy. When the rate falls and discount rates with it, this of course raises the net present value[699] of companies and their current investments – assuming the same profit expectations! But these higher present values of any expected future revenues (resulting from the lower yields of the risk-free investment alternative) should attract more investments or otherwise increase competition over customers (and/or employees), bringing down the prices of the produced goods (and/or raising wages), which reduces profits until present values are where they were.

So, lower interest rates mainly reduce the *share of the added value* going as profits to capital: the "income share of capital". Of course the lower prices might increase consumption and the lower costs of capital might encourage adopting more capital-intensive technologies, which would then increase total wealth.

However, when we add in resources that *cannot* be produced – privileges and limited natural resources, most notably land (ownership of location) – the situation changes quite a bit. As Mark Twain aptly put it:

> "Buy land, they don't make it anymore."

As lower discounting rates cannot increase their supply and the value of location does not erode with use, the result is just that the profits they are expected to yield maintain a notable net present value further into the future. The same applies if competition is otherwise limited in an industry, allowing a company to sustain much higher profits on its real assets than the costs of capital would require. As a matter of fact, the inverse relationship between the market interest rate and a company's share price (or a resource's market value) could serve as a "monopoly indicator"! The stronger the inverse relationship, the less efficiently price competition works in that industry or the production and trade of the resource.[700] In perfectly competitive industries, the interest rate should have no direct effect on companies' share prices.

If the market interest rate would, theoretically, be -7 % resulting in a discounting interest rate of, say, -2 % for fairly safe investments, such safe industries under fair competition would be making an around -2 % loss on average (paying more wages and other costs than they get revenues) and the industry would be "profitable" with that.[701] But the value of prime real estate would simply turn infinite, resulting in a massive real estate bubble that would raise prices many fold and then crash – latest when the market interest rate goes up.[702] This is why owning real estate needs to have a cost to it – which would be easiest to achieve by taxing real estate according to its location value. This problem is explained more mathematically in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?" and land taxation is discussed in "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

A land tax would simply transfer part of the ownership of land – rights to parts of its income – to the government. Therefore, even with a land tax, the full present value of land and other natural resources would still be higher when the interest rate is lower.

So, the amount of "net wealth" in the economy can also increase in proportion to future total consumption as a result of the number (and strength) of monopolies increasing or – under the existence of monopolies – the market interest rate dropping. Hopefully this serves to show how the objective of maximizing "wealth" in an economy is even more senseless (and even even dangerous[703]) than that of maximizing economic activity – GDP.[704]

Also for the relative increase in wealth, which Thomas Piketty observed, increases in the values of land and

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> "It is easy to obtain confirmations, or verifications, for nearly every theory – if we look for confirmations." (Popper 1963)

Modigliani's and Deaton's logic exemplifies the tendency of economists to think that (monetary) saving facilitate investments (and not the other way around), which might reflect a subconscious perception of money as somehow magically stored work (see: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance", "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated"). More on the traps of causality in "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

698 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

699 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

700 This of course does not only recognize actual monopolies, but also so-called "monopolistic" industries, where products are so highly differentiated or have such status value that price competition does not work efficiently (e.g. strongly branded goods like luxury products) – especially to Veblen goods, where lowering prices might even decrease the demanded amount. See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

701 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

702 See: "4.2.4.9 Real Estate Bubbles" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

703 E.g. the objective of maintaining or maximizing "real estate wealth" means essentially maintaining a housing deficit and rip-off-high rents (see: "4.3.1.6 Case: Helsinki Metropolitan Region" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?") and the objective of maintain "savers' purchasing power" (especially in a recession) is essentially maintaining a minimum wage for capital and encouraging keeping others in debt and unemployed (see: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash").

704 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'", "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?" and "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

other monopolies is a far more likely explanation than an increase in the capital intensity of used technologies.[705]

"A system is a whole … that consists of parts, each of which can affect its behavior or its properties." … "The second requirement is that each part of the system, when it affects the system, is dependent for its effect on some other part. In other words, the parts are interdependent. No part of the system or a collection of parts of the system has an independent effect on it." – Russ Ackoff[706]

705 Piketty (too, like Modigliani and Deagon, see: footnote 697), quite pointlessly, tries to explain the increase in wealth by a theory focusing on *who* saves and *who doesn't* – omitting the fact that net saving without investing is not possible. Work, as such, cannot be stored. For more on Piketty's dilemma, see: "3.1.2.3 'Lack of Growth Increases Inequality' – Piketty's 'r>g Dilemma' Solved" and "Sidenote Box 118B: The Trouble with Measuring Capital Financially: 'The Cambridge Capital Controversies' and Piketty's 'Capital'".

706 3308->, "If Russ Ackoff had given a TED Talk...", a presentations in 1994, viewed 16.10.2013, http://www.youtube.com/watch?v=OqEeIG8aP-Pk

1.3.3 The Circular Flow of Income – Consumption, Saving and Investing

In short:

- ***Every monetary transaction has a payer and a receiver (you can't sell if no one buys). Therefore our earning opportunities are determined by how much is spent and invested in real assets.***
- ***In a round-based model (where today's spending is tomorrow's income), the economy grows when consumers in the economy spend and invest more than they earn.***
- ***If the economy grows by savings being spent off faster, the "circulation velocity of money" increases. If it grows by people taking more loans or paying them off more slowly, the quantity of money (and thereby debt) increases.***

"Supply is a stream which rises in the division of labour and flows into the houses of the consumers. Demand is not a stream but an object which moves in a circle and when rotating quickly resembles a solid ring. Supply is always composed of fresh wares which make one journey and disappear for ever. Demand is composed of a mass of coins which have completed the same journey a thousand times and are destined to complete it as many times again." – Silvio Gesell, The Natural Economic Order (1916, Part 3, Ch. 10)

So all money in the system is liquid credit. The total amount of credits equals the amount of debts. In all transactions of money, there is a payer – someone who "gives" money, i.e. loses credit – and a recipient of the payment – someone who receives credit. The most important implication of this in terms of economics is that earning opportunities are determined by how much we spend in products and services (a.k.a. consumer expenditure) and invest in real assets. No one can increase his credit balance unless someone else is decreasing his balance – giving up his current positive credit balance or taking on debt.

Let's define:

Earnings = The income of an agent in the economy (a consumer, a company, a foundation the government etc.), i.e. how much the agent captures of the value it has created

Spending = buying services and non-durable goods, i.e. how much the agent consumes value

Saving = *Earning – Spending* = an increase in the agent's total assets

Investing = buying real assets[707]

Divesting = selling assets = negative *Investing*

Borrowing = negative saving when no savings remain; included in Net Saving

MonetarySaving = a decrease in debt or an increase in financial assets = Saving – Investing

NetInvesting = the sum of all *Investing* minus all *Divesting* in the economy

NetSaving = the sum of all saving in the economy, i.e. the total increase in assets in the economy

EconomicGrowth = an increase in earnings from the previous period[708]

As mentioned, the monetary system is a closed economy and therefore net monetary saving cannot occur on the level of the whole economy. John Maynard Keynes makes it clear in his General Theory that savings always equal investments (Keynes 1936, p. 47). This is simply because net wealth can only increase by the total value of real assets rising.[709] But if we consider this a *discrete* model (a case of digital control) where payments from previous periods are only received the next period, or if we, in "net savings", ignore the temporary monetary savings and losses ("desavings") by companies due to increased or lowered demand, we can conclude (*k* being the period in question[710]) that:

$$Earnings_{k+1} = Spending_k + NetInvesting_k$$[711]

and therefore the following applies in a closed market:

$$NetInvesting - NetSaving = EconomicGrowth$$ (decline when negative)

= the increase in total output and earning opportunities

or

$$EconomicGrowth = NetInvesting + Total\ Spending - TotalEarnings$$

In this discrete model, when someone saves more money ("*MonetarySaving*") – i.e. puts off her spending or investing to the next period – someone else has to spend off some of her savings or take loans to spend simultaneously or the amount of economic activity declines. Economic activity is smaller for that period than the next and will be so for all following periods until someone spends off his savings or takes a "loan" of a similar amount. When more savings are spent off than are accumulated or more loans are taken than paid off, the economy grows.

If it grows by someone borrowing from a bank, the money supply expands.[712] If it grows by someone borrowing from an individual, the amount of debt increases, but the money supply (M1 or M2) does not increase.[713] If it grows by people spending off their savings faster, the *circulation velocity* of money (a.k.a. *money velocity*) increases, meaning that the same amount of credit changes hands between people and institutions faster. The only way for an economy to grow without the amount of debt increasing is to make money "circulate" faster (i.e. change holder more often), to do more transactions with the same amount of money (the same-sized liquid credit buffers). The amount of debt is smaller when people hold smaller monetary savings buffers.

$$MV = pY,$$

i.e.

$$MoneySupply * MoneyVelocity = PriceLevel * TotalEconomicActivity(\text{i.e. } RealGDP) = NominalGDP(\text{i.e. } NGDP)$$

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707 In this context, "real assets" refers to all assets that don't appear as any other party's liability. This includes physical assets, intellectual property rights such as patents, trademarks, copyrights and people's skills (if they are somehow capitalized). (See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".) The complication here is that a big part of productive assets are not owned directly by individuals, but by companies that individuals own through the company's shares and business-risk-bearing corporate credit.

708 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

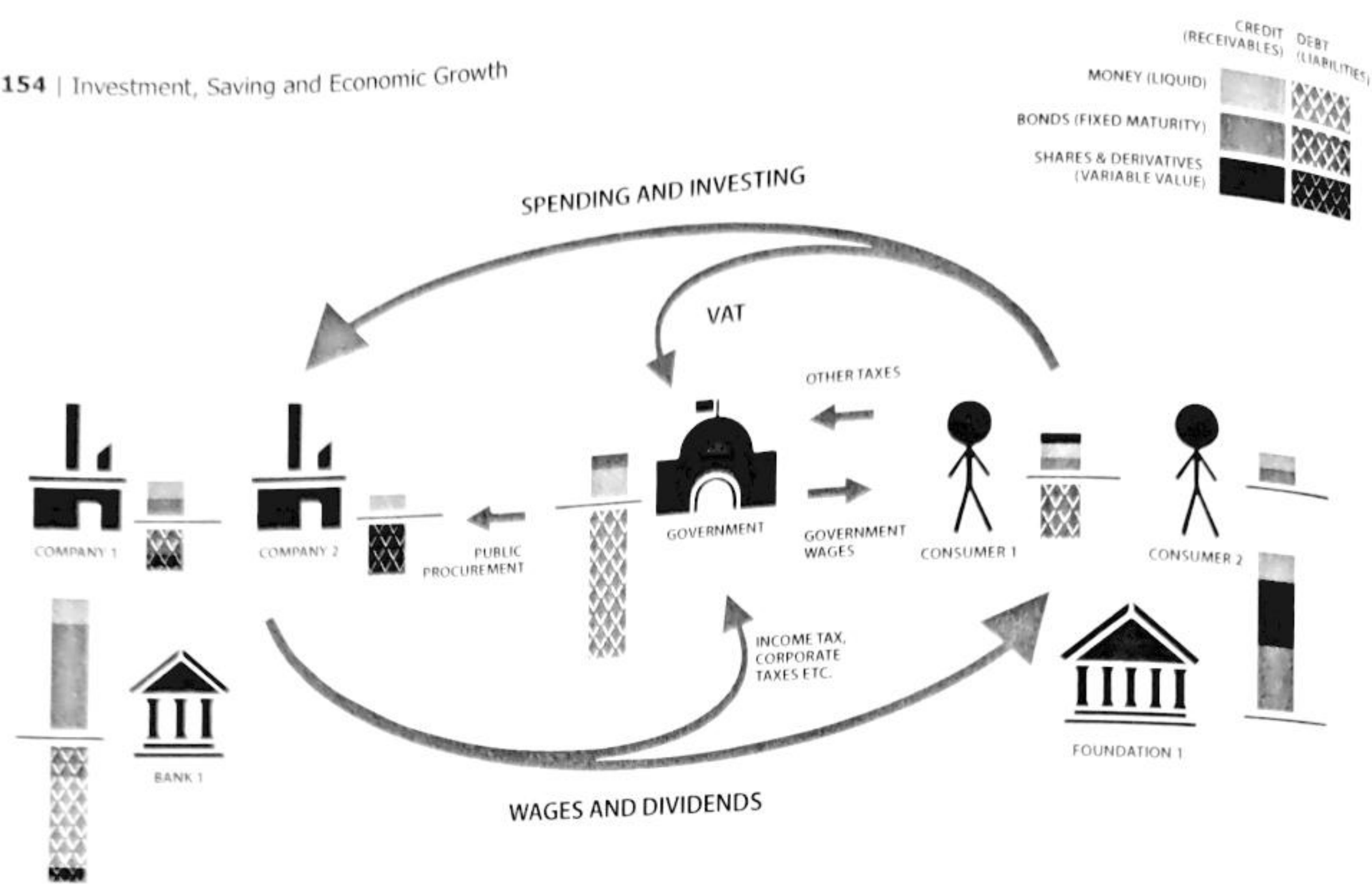
709 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

710 If we take the latter interpretation and only consider consumers here (ignoring the profits losses of companies), *k* would depend on the time it takes for companies to adjust their labor expenditure and to pay dividends. But this is quite a theoretical model.

711 "Mr D. H. Robertson has defined to-day's income as being equal to yesterday's consumption plus investment, so that to-day's saving, in his sense, is equal to yesterday's investment plus the excess of yesterday's consumption over to-day's consumption. On this definition saving can exceed investment, namely, by the excess of yesterday's income (in my sense) over to-day's income. Thus when Mr Robertson says that there is an excess of saving over investment, he means literally the same thing as I mean when I say that income is falling, and the excess of saving in his sense is exactly equal to the decline of income in my sense. If it were true that current expectations were always determined by yesterday's realised results, to-day's effective demand would be equal to yesterday's income. Thus Mr Robertson's method might be regarded as an alternative attempt to mine (being, perhaps, a first approximation to it) to make the same distinction, so vital for causal analysis, that I have tried to make by the contrast between effective demand and income." (Keynes 1936, p. 57)

712 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

713 This is good to remember when suggests peer-to-peer lending (P2P) as a replacement for banking. P2P lending increases the amount of debt in the system without increasing the money supply – liquidity. P2P lending is a suitable option for filling in the credit needs of individuals who might be considered too risky to lend to by private banks due to a lack of collateral and a stable source of income, but whom a peer has other reasons to trust. But removing banking would make the system much more inflexible. For more on suggestions of "preventing banks from creating money, see: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".



GRAPH 21: THE CIRCULAR FLOW OF INCOME IN A CLOSED ECONOMY.

, where *NGDP* is the nominal gross domestic product. This equation is not a "hypothesis" – a theory of how the economy behaves – but rather just a definition of "money velocity". E.g. "M1 velocity" (velocity of the M1 monetary aggregate[714]) could be written as:

$$V_{M1} = NGDP / M1$$

This should not be confused with e.g. the Quantity Theory of Money, which assumes a constant circulation velocity in the long run.

The real world is, of course, not exactly like the discrete model described above. There are no set intervals at which trade can be conducted or debt taken on or paid off. Actually, the whole concept of the "circulation velocity of money" is a bit of a remnant from a world of notes and coins (the quantity of which was relatively inelastic). In today's world, it starts looking quite artificial and misleading – as seen e.g. in the issue of having to determine velocity separately for different monetary aggregates. Even over a century ago, Knut Wicksell called it one of "the flimsiest and most intangible factors in the whole of economics." (Wicksell 1936, p. 42)

With modern electronic banking, we can conduct transactions so that the money "exists" only for the split-second moment of the transaction. (Cochrane 2014, p. 3-4) Circulation velocity can therefore, theoretically, be next to "infinite". In this kind of world, there is no reason to assume that the balances of liquid credit (money) that people wish to hold would be in any proportion to the amount of trade that they wish to conduct, as will be explained in "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money". And if holding this liquidity had a proper price (as I suggest it should[715]), M1 velocity could be orders of magnitude faster – i.e. the buffers of liquid credit people hold could be so much smaller without the amount of trade being restricted in the least.

Companies try to maximize their profits and thus won't buy more work unless they expect to sell more of their products in the long run.[716] Therefore, decreased aggregate demand causes temporary losses to companies, but in the medium term it reduces consumers' income opportunities as well (through lower wage and dividend income etc.). The fact that the resulting insecurity might spur further saving is a big part of what causes the chain reactions of recessions, as will be explained in: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

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714 See: "1.2.8 The Supply of Money Is Infinitely Interest Rate-Elastic – The Money Supply Is Endogenous".

715 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

716 Especially "supply-side economics" (typically endorsed by pro-business interest groups) likes to maintain a perception of companies having some kind of intrinsic "utility curve" for labor and that companies would hence always buy more labor if it just got (nominally) cheaper. Some Austrian economists (like Murray N. Rothbard) share similar hallucinations about entrepreneurs' decision-making (see: "2.2.2.1 A Single Precious-Metal-Standardized Currency").

If companies do make a profit, they invest it into further development capacity, save it to secure their solvency and liquidity,[717] or distribute it as dividends to shareholders who then can further invest it or spend it. Companies won't invest in production, R&D, marketing activities or anything else, unless they expect their income – sales – to increase. And as explained in "1.1.8 Labor and Capital (and Land?) – The Factors of Production", real investments are not needed and additional investments only make a loss if no more of the goods and services produced with them are consumed.

> "New capital-investment can only take place in excess of current capital-disinvestment if future expenditure on consumption is expected to increase. Each time we secure to-day's equilibrium by increased investment we are aggravating the difficulty of securing equilibrium tomorrow. A diminished propensity to consume today can only be accommodated to the public advantage if an increased propensity to consume is expected to exist some day." (Keynes 1936, p. 71)

Although *capital intensity* can vary in the long run, short-run adjustments are very limited. This is mainly because most investments into production are specific (e.g. a paper machine has few other uses than making specific types of paper) and often cannot be divested without a significant cost.[718] R&D and training investments are often completely indivestible. Additionally, there are many industries where additional capital intensity cannot increase labor productivity significantly in the current stage of technological development.

Therefore, we can conclude that economic growth (in a closed economy)[719] is fundamentally determined by consumer spending – current spending and expectations of future spending, as those are what determine the timing and quantity of investments.[720] Companies are merely intermediaries in a process where people essentially buy labor (and risk-bearing) from each other through goods and services. Of course, if resources (most notably labor) become a bottleneck, excessive demand in relation to supply leads to accelerating inflationary pressures – a rising price level with rising nominal wages.[721]

1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage

In short:

- *The economic growth of a single national economy or other region is also – in addition to domestic demand – affected by its current account balance with other economies: how much more it exports and receives capital income from abroad than it imports and pays capital income overseas plus possible transfers of assets with e.g. their owners immigrating.*
- *Increasing an economy's monetary wealth by maintaining a current account surplus is effectively indebting other nations further, as the surpluses can only be facilitated by their deficits. As with individuals: you cannot sell (acquire credit) if no one buys (gives up credit or takes on debt).*
- *Instead, countries of even very different living standards and total labor productivity can mutually benefit from balanced trade when each has a "comparative advantage" in some industries.*

"Economists disagree about a lot of things but one thing they all agree on is (that) the sum of all global exports has to equal the sum of all global imports. As long as trade with Mars and Moon remains limited." … "It is simply impossible for all countries to have a surplus! That's arithmetic." – Joseph Stiglitz

"International trade is not a zero-sum game. When productivity rises in Japan, the main result is a rise in Japanese real wages; American or European wages are in principle at least as likely to rise as to fall, and in practice seem to be virtually unaffected." …
"Tell a group of businessmen that a country

717 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
718 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
719 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".
720 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".
721 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

is like a corporation writ large, and you give them the comfort of feeling that they already understand the basics. Try to tell them about economic concepts like comparative advantage, and you are asking them to learn something new. It should not be surprising if many prefer a doctrine that offers the gain of apparent sophistication without the pain of hard thinking." – Paul Krugman, Competitiveness – A dangerous obsession (1994, p. 34 & 39)

> "To every trade there must be two parties who mutually desire to trade, and whose actions are reciprocal. No one can buy unless he can find some one willing to sell; and no one can sell unless there is some other one willing to buy. If Americans did not want to buy foreign goods, foreign goods could not be sold here even if there were no tariff. The efficient cause of the trade which our tariff aims to prevent is the desire of Americans to buy foreign goods, not the desire of foreign producers to sell them. Thus protection really prevents what the 'protected' themselves want to do. It is not from foreigners that protection preserves and defends us; it is from ourselves." – Henry George, Protection or Free Trade (1949 p. 42–43)

> "More and more of our imports come from overseas." – George W. Bush

A nation in a global economy, however, is not a closed economy and both the government and private entities inside its borders can trade with entities outside its borders as well. So when looking from the perspective of one nation, the earlier-presented discrete growth equation looks like this:

$$Investing - Saving + CurrentAccount = EconomicGrowth,$$

where

$$CurrentAccount = BalanceOfTrade + FactorIncomeBalance + CashTransfers.$$

"The balance of trade" includes payments for exports of services and products minus imports.

"Factor income" refers to capital income payments, such as interest on credit and dividends to shareholders. The "factor income balance" is the difference between the income received from abroad and the income foreigners receive from the country. The appreciation (rise in value) of foreign assets is also capital income from abroad, even though nothing is "paid" before the foreign asset is sold.

"Cash transfers" refer to credit (money, bonds etc.) moving with its owners (or moved by its owners without changing ownership) overseas.

Let's emphasize that the current account does not include making foreign direct investments (FDIs) or borrowing and lending across borders. The changes in net holdings of foreign assets form *the capital account*. The capital account is what balances the current account so that their sum – called *the balance of payments* – should theoretically be zero for every country. This is because a difference in net asset holdings between countries occurs only (1) when something that does not remain in the country of origin is bought (i.e. exporting or importing), (2) when the value of a held foreign asset changes (i.e. factor income) or (3) when assets are moved without trading them for anything else (i.e. cash transfers). "Lending money" overseas is essentially buying a foreign debt bond. Immediately after the "loan" is made, the foreigners hold the "lent" money and the "lender" holds the bond. There is no change in net foreign assets before the "lent" money is spent on foreign goods and services or the loan earns interest. In practice, measurements are inaccurate and the statistical current account seldom matches the statistical capital account exactly. (Also, in some definitions "the balance of payments" (BoP) excludes changes in the central bank's reserve holdings, in which case the BoP can have a surplus or deficit.) Khan Academy has a good step-by-step explanation of these.[722]

Although the current account of a single country can be negative or positive, it is important to remember that – apart from differences in accounting practices and accounting errors – the sum of all nations' current accounts is zero. Also, the sum of all debts and credits in the whole, closed world economy is still zero: If some national economies – composed of the citizens, the companies, the government and other institutions of a country – are net creditors, this has to be matched by other national economies being net debtors. Although international trade is not a zero-sum game in terms of real gains achieved, monetarily it is a zero sum game.

Thus a wealthy country – a net creditor – spurring its economy through a foreign trade surplus and gathering monetary assets is further indebting other national economies as a whole. Joseph Stiglitz puts it quite clearly:

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722 "Balance of Payments – Current Account", Khan Academy, viewed 16.6.2013, https://www.khanacademy.org/economics-finance-domain/macroeconomics/forex-trade-topic/current-capital-account/v/balance-of-payments-current-account

> "Economists disagree about a lot of things but one thing they all agree on is (that) the sum of all global exports has to equal the sum of all global imports. As long as trade with Mars and Moon remains limited." ... "Global instability is as much or more a result of the behavior of surplus countries as of the deficit countries." ... "It is simply impossible for all countries to have a surplus! That's arithmetic."[723]

As said, additional loans given to indebted nations do not alleviate their indebtedness – (foreign) *solvency* – but, on the contrary, they increase their (foreign) *liquidity* and facilitate maintaining a current account deficit, which means becoming further indebted, i.e. less solvent! This is yet another case example where understanding the difference between liquidity and solvency is important.[724]

It is also important to understand the difference between an "*absolute* competitive advantage" and a "*comparative* advantage". Absolute competitive advantages are a *zero-sum game*, as competitiveness is always in relation to that of one's competitors: If your sprint rivals learn to run faster, you are less "competitive", even if you ran just as fast as before. All competitiveness is *relative*![725]

An absolute advantage is the result of overall *price competitiveness*, which essentially means lower overall production costs. Relative production costs are largely determined by overall labor productivity and the real wage level. (With today's relatively free flows of capital, the costs of capital don't usually make much of a difference.) The real wage level compared to other nations is affected both by nominal rises in wages and by the exchange rates of the currencies in which these wages are expressed, as is explained in more detail in "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further". If real wages (meaning in this case "exchange-rate-adjusted" wages) rise at the same proportion to productivity as in other countries, no absolute advantage is achieved and price competitiveness remains as it was.

However, the added value to both parties of trade arises from *comparative* advantages. Whenever the relative production costs[726] between different product categories is not the same in two countries, the countries can benefit from trade (ignoring transaction costs) – even if the labor productivity of country A would be higher in every product category. If, for example, country A can produce a shirt with 1 hour of labor and a hat with 2 hours while country B produces a hat in 5 hours and a shirt in 10, it is worth for country A to specialize in making shirts and country B to specialize in making hats.[727]

With equal labor costs, country A would have a 2,5-fold absolute advantage in hats and 10-fold absolute advantage in shirts, but with wages or currency exchange rates adjusting to balance labor costs and thereby bringing absolute competitivenesses to equilibrium, country B suddenly becomes very competitive in hats. We say that country B has a *comparative* advantage in hats. The countries could trade hats for shirts with e.g. an exchange ratio of 1:1 and the citizens of both countries would win. Country A could provide all its citizens with a hat and a shirt for a total of 2 hours of work and country B with 10 hours, while without trade the required work would be 3 and 15 hours respectively. Adding e.g. 1 hour of transportation and trade costs per shirt or hat would still keep it profitable for country B (11 hours total), but cause a break even for country A (3 hours total). In this case, the trade prices would likely adjust (e.g. 10 hats for 9 shirts), making trade again profitable for both parties.

However, if country B could produce hats in 10 hours and shirts in 5, there is no comparative advantage in either product, as the relative amount of labor required by hats and shirts is the same in both countries and there would be no added value from trade.

Now, if country A uses some sort of market manipulation to prevent the costs of its products rising (exchange rate ceilings, collective wage restraint, industry subsidies, etc.) or to hamper imports (e.g. import tariffs) in order to e.g. maintain the jobs in its hat industry while maintaining all its shirt exports, the only way country B can afford to buy these from country A is that some agents in country A give country B agents "loans". The shirts cannot be paid with products, as they are unable to export enough hats. Countries maintaining an absolute advantage in this sense to allow their own citizens or institutions to increase their net monetary balances are inevitably indebting other nations.

So, the fierce economic competition between nations – which could rightfully be called an "economy war" – is not over "welfare" or "living standards", but over each economy's citizens' and institutions' opportunities to save monetarily. This is so regardless of whether the end (or excuse) is financial control of other economies or simply

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723 0:15->, 25:17-> & 26:20->, 2012, "Is mercantilism doomed to fail 4/5?" presentation by Joseph Stiglitz, viewed 3.3.2013, http://www.youtube.com/watch?v=D207fSLnxHk

724 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

725 In this sense, the Finnish translation of "comparative advantage" to "suhteellinen kilpailuetu", which would translate back directly to "relative advantage", is quite misleading. "Verrannollinen kilpailuetu" would be a better translation.

726 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

727 In this example, we assume that the work required for the production of each good is the same kind or that the supply of both kinds of labor (i.e. the price workers demand for different amounts of them) is equal. If they are not, we have to convert, in these calculations, the one kind of work to the other according to their difference in market price.

the (partly false) sense of security[728] and the mere "virtue" of saving. The attempts to maintain a price advantage through e.g. internal or external devaluation is actually *preventing* the purchasing power of *incomes* (which is often what "living standard"[729] refers to) in the nation from rising.[730]

Does it make one a "Keynesian" if one accepts that it is not possible to sell if no one buys?

"Tariffs are an alternative to devaluation. After all, it comes roughly to the same thing if, on the one hand, the price of the pound sterling was changed from the $4.87 – which then was the price – to, let's say, $4, that would make British goods cheaper to foreigners, it would make foreign goods expensive to Britons and in that way would redress the problem in the balance of payments they were facing. That's one way to do it and the best way. But [Keynes] thought that was politically unfeasible and it comes to the same thing to introduce a tariff on imports and a subsidy to exports. That's an indirect and concealed form of devaluation." – Milton Friedman[731]

728 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?".
729 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value - The Many Meanings of 'Wealth'".
730 See: "2.2.5.3 Competitiveness Politics - Just Indebt Other Nations Further".
731 2:06->, Friedman, Milton, "John Maynard Keynes Deviation Away From Free Trade", lecture clip, viewed 24.9.2013, http://www.youtube.com/watch?v=7yDVvsP2dmk

1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money

In short:

- ***The Quantity Theory of Money has hardly any explanatory or predictive power in today's credit money system: Changes in the quantity of money do not have a direct causal relationship with changes in the general price level, i.e. "inflation".***
- ***Changes in the overall price level are rather determined by aggregate supply and demand of labor (though it is also affected by changes in labor productivity).***
- ***The central bank can control inflation through its policy interest rate because the interest rate affects the profitability of saving and the costs of being in debt, which affect aggregate supply and demand – not because it would have any control over the money supply.***

"There is no justification whatever for the widespread belief that variations in the quantity of money must lead to inversely proportionate variations in the objective exchange-value of money, so that, for example, a doubling of the quantity of money must lead to a halving of the purchasing power of money." – Ludwig von Mises (1912, p. 141)

"The quantity theory, which, with unimportant limitations, holds good of all wares, has been applied to money. It has been stated that the price of money is determined by the stock of money. But experience has shown that the supply of money is not so dependent upon the stock of money as this statement of the quantity theory assumes. The stock of money often remains unaltered, but the supply of money is subject to great variations." … "A rumour is often sufficient to direct a torrent of money and demand from the market to the places where

money is preserved. A telegram, perhaps forged, often makes hands in the act of closing the purse-strings scatter money broadcast upon the market." – Silvio Gesell, The Natural Economic Order (1916, Part 3, Ch. 15)

"Most deeply, 'liquidity' no longer requires that people hold a large inventory of fixed-value, pay-on-demand, and hence run-prone securities. With today's technology, you could buy a cup of coffee by swiping a card or tapping a cell phone, selling two dollars and fifty cents of an S&P 500 fund, and crediting the coffee seller's two dollars and fifty cents mortgage-backed security fund. If money (reserves) are involved at all – if the transaction is not simply netted among intermediaries – reserves are held for milliseconds. In the 1930s, this was not possible." ... "Closer to current institutions, electronic transactions can easily be made with treasury-backed or floating-value money-market fund shares, in which the vast majority of transactions are simply netted by the intermediary. When you buy something, your account loses an electronic dollar and the seller's account gains one, and no security actually changes hands." – John H. Cochrane, Toward a Run-free Financial System (2014, p. 3-4)

Definitions of words are significant – not only because unclear definitions cause broken communication and severe misundertstandings, but because definitions themselves can include assumptions and affect the emotional charges words take on.[732] Sometimes it is enough that the assumption is embedded in the word's etymology – even if it had been discarded from its official definition. "Inflation" is a focal concept of economics and a lot of effort is put into just the debate over its definition. It is strongly emotionally charged and quite openly demonized by many economic schools, including monetarist, Austrian and supply-side economics as well as most of the mainstream. Inflations of all kinds are categorically threats and costs – always to be avoided.

The even bigger trouble, however, is that etymologically – and by its definition in e.g. Austrian economics[733] – the term includes the assumption of the *Quantity Theory of Money*: that there is a causal relationship between the total amount of money in the market and the general price level of goods and service, i.e. overall living expenses in that money.

The contemporary official definition in mainstream economics is just "the rate at which the general level of prices for goods and services is rising" (and subsequently the purchasing power of money is falling),[734] [735] which is often measured as the changes in the *consumer price index* (CPI).[736] But the word "inflation" still brings to mind the idea of something expanding – without material content increasing (compare e.g. "an inflatable mattress") – which historically refers to the money supply (the quantity of money, see: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous") expanding.[737] And some still refer to a rise in the price level as "price inflation" and to an expansion in the money supply as "monetary inflation".

The following sentence from the introduction to an edition of Ludwig von Mises's "Theory of Money and Credit" by Douglas E. French is descriptive of how much of a natural law this causal relationship is considered to be:

> "The elementary truths of the Quantity Theory were established at a time when speculation on other types of economic problem had hardly yet begun." (Mises 1912, p. 11)

However, the Quantity Theory of Money has always been a rough approximation at best and in the time of electronic credit money it deserves to be left under a glass cover in economics museums.[738]

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732 See: "5.1.1 Our Emotional Attachment to Words".

733 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

734 "Inflation", Investopedia, cited 26.2.2013, http://www.investopedia.com/terms/i/inflation.asp

735 "Inflation", Wikipedia, cited 26.2.2013, http://en.wikipedia.org/wiki/Inflation

736 "Consumer Price Index", Ludwig von Mises Institute Wiki, cited 21.5.2013, http://wiki.mises.org/wiki/CPI

737 Alfred Mitchell-Innes for example uses "inflation" purely in this sense, distinguishing it from "general depreciation of money" and "rising prices":
"Large reserves of "lawful money" in the banks are evidence of an inflation of the government currency.
The inflation of government money induces a still greater inflation of credit throughout the country, and a consequent general depreciation of money.
The depreciation of money is the cause of rising prices." (Mitchell-Innes 1914)

738 Monetary and development economist Richard Werner has proposed the Quantity Theory of Money to be replaced with "the Quantity Theory of Credit", in which he separates money used (and lent) for real investments and production from money used (and lent) for financial transactions and assumes the circulation velocity of the former to still remain constant in the long run. (Werner 2012) Although he presents evidence that real economy credit creation correlates with economic activity, it makes little sense that private credit creation should raise the price level. He suggests regulations that restrict the purposes for which banks can make loans (create new money), as "[m]arkets simply do not ensure an efficient allocation of credit." How markets can be made to ensure efficient allocation of credit and risk-assessment by putting a price on the

The basic formulation of the Quantity Theory of Money practically assumes that the circulation velocity of money[739] remains constant in the long run – i.e. that any money exchanges hands at regular intervals. This assumption makes little logical sense, and a clear empirical counter example is Japan, which has been in recession and hovering on the brink of a deflationary cycle despite massive increases in liquidity, both through private borrowing and public "monetary injections" through fiscal stimuli[740] and quantitative easing.[741] [742]

Even if we considered money to be a commodity that only serves the role of a "medium of exchange", one important criticism towards the assumption of a constant circulation velocity is the possibility of changes in people's willingness to save – their "demand for money" – increasing due to e.g. a higher liquidity preference (Keynes 1936, p. 106[743]) or general economic insecurity (Keynes 1936, p. 43[744], von Mises 1912, p. 147[745]). This makes the Quantity Theory a very rough approximation even in a "pure cash economy". In Wicksellian "pure credit economies", (Boianovsky & Trautwein p. 3; Wicksell 1936, p. 70-76) which current developed economies practically are, the QTM is completely useless.[746]

Ludwig von Mises is one to have criticized the accuracy of the Quantity Theory, even under a commodity standard currency. He focuses rather on the demand and supply of money (which he treats as a commodity[747]) and points out that the demand for money (people's desire to hold it) can change irrespectively of its supply.

> "There is no justification whatever for the widespread belief that variations in the quantity of money must lead to inversely proportionate variations in the objective exchange-value of money, so that, for example, a doubling of the quantity of money must lead to a halving of the purchasing power of money." (Mises 1912, p. 142) …

> "Not to understand the nature of the demand for money is to fail at the very outset of any attempt to grapple with the problem of variations in the value of money." (p. 134) …

> "The demand for money for storage purposes is not separable from the demand for money for other purposes." (p. 148)

> "In fact, the conditions of demand for money, including the demand for storage purposes, is independent of the circumstances of the supply of money." (p. 148)

Von Mises treats "the supply of money" as synonymous with the "quantity of money", assuming the price elasticity of the quantity of money to be very inelastic.[748] Silvio Gesell, who also treats money as "ware" of inelastic supply, makes a distinction between "the supply of money" (the amount offered for trade) and "the stock of money" (its amount, which is often called "the money supply"):

> "A person can offer less money than he possesses, but he cannot offer more than he possesses. Our stock of money is the upper limit of our offer of money." (Gesell 1916, Part 3, Ch. 10)

> "But experience has shown that the supply of money is not so dependent upon the stock of money as this statement of the quantity theory assumes. The stock of money often remains unaltered, but the supply of money is subject to great variations. The war-chest at Spandau has not been offered as supply once in forty years, whereas other money annually changes hands 10 or 50 times." (Gesell 1916, Part 3, Ch. 15)

When the subject of discussion is the general price level – or the market value of anything at all – von Mises is completely right in that it makes sense to start from supply

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government deposit guarantee, is explained in "4.2.2 Setting a Fee on the Government Deposit Guarantee" and "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".
– Werner, Richard A., 2012, "The Quantity Theory of Credit and Some of its Applications", PowerPoint presentation, University of Southampton Management School, Centre for Banking, Finance & Sustainable Development, retrieved 107.2013, http://www.postkeynesian.net/downloads/Werner/RW301012PPT.pdf

739 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

740 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

741 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

742 "A second possible channel for quantitative easing to influence the economy is the fiscal channel. This channel relies on the observation that sufficiently large monetary injections will materially relieve the government's budget constraint, permitting tax reductions or increases in government spending without increasing public holdings of government debt." (Bernanke et al 2004, p. 20)

743 " … an individual's liquidity preference is given by a schedule of the amounts of his resources, valued in terms of money or of wage-units, which he will wish to retain in the form of money in different sets of circumstances?" (Keynes 1936, p. 106)

744 "(i) To build up reserves against unforeseen contingencies;" (Keynes 1936, p. 43)

745 "The uncertainty of the future makes it seem advisable to hold a larger or smaller part of one's possessions in a form that will facilitate a change from one way of using wealth to another, or transition from the ownership of one good to that of another, in order to preserve the opportunity of being able without difficulty to satisfy urgent demands that may possibly arise in the future for goods that will have to be obtained by way of exchange." (Mises 1912, p. 147)

746 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

747 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability".

748 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

and demand,[749] which are what usually determine prices in the market[750] – rather than plain quantity. But because

> "objective exchange value is expressed in terms of money" ... "a price index, in Menger's phrase " ... "[a] common denominator to which [one can] reduce each exchange ratio" (Mises 1912, p. 48)

and because

> "...money has no use-value at all, but only subjective exchange-value" (p. 97)

and because

> "[i]t is unnecessary to demonstrate that money is not a consumption good [and i]t seems equally incorrect to call it a production good", (p. 79)

it makes much more sense to rather focus on the supply and demand of *everything else* when discussing the value of money – i.e. the price level ("objective exchange value", in von Mises's words) of everything else in money – and focus especially on the main factor of production of everything else: labor.[751]

This is the idea behind the "triangle model" of inflation. (Gordon 1988) When the demanded amount exceeds the supplied amount, prices rise and vice versa.[752] And this applies to labor as well. Of course the costs of goods and services don't necessarily follow the respective labor costs cent for cent. The supply curves of individual products can also move left as a result of real production costs rising, i.e. the productivity of labor decreasing in the industry ("cost push inflation"). In addition to labor costs, the costs of capital (its profit requirements) form a notable share of prices. A rise in profits can of course raise prices without wages changing.[753] The nominal average price level of goods and services depend on these factors along the following equation:

PriceLevelOfGoodsAndServices =
AverageWageLevel /
OverallLaborProductivity(1 – IncomeShareOfCapital)

Overall labor productivity often tends to increase fairly steadily with time due to technological progress, but one example of a thing that can decrease it is the depletion of natural resources and new reserves becoming harder to access. The proportion of capital costs to labor costs ("the income share of capital") is practically what is determined by the interest rate and (excluding the cases of monopoly industries and limited, vital resources), with a working interest rate mechanism, these should correlate positively with pressures to raise wages:[754] The overall supply of capital is practically people's desire to save and the demand for it is the need for real investments – and hence an oversupply of labor *is* an oversupply of capital, lowering both wages and the interest rate, and vice versa.[755] Additionally, expectations of inflation raise nominal interest rates, as savers and investors require a bigger nominal profit in order to guarantee the same real return. Fears of inflation (which aren't fully realized) can thereby also raise real profit.[756]

Also, e.g. Silvio Gesell pointed out that the average returns on capital had (until his time) remained at around 4 to 5 %[757] and more recently Thomas Piketty (2013) presented vast amounts of data showing similar results[758] – and the accumulation of additional capital tends to be a fairly continuous process. (This book, of course, suggests that the only thing keeping the returns on capital at these levels are the inevitably positive returns on land[759] and the zero lower bound of interest rates acting as capital's "minimum wage".[760])

So if the prices of products rise in excess of decreases in labor productivity, this usually means that labor, overall, is becoming more expensive (in the used currency) on average.

> "Nominal wage developments are the dominant proximate factor determining inflation pressures in the short run." (Coe 1985, p. 107-110)

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749 Referring to the classification in footnote 654, here, we talk about the demand and supply of money in sense a-2.

750 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

751 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

752 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

753 E.g. business profit share was on average between 35% and 41% in the past decade in the euro area, according to Eurostat.
– Eurostat News Release Euro Indicators, "Business investment rate down to 19.7% in the euro area and to 19.6% in the EU27", 67/2013, 29th Apr 2013, p. 2-3, retrieved 28.4.2013. http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-29042013-BP/EN/2-29042013-BP-EN.PDF

754 "Eliminating from interest the element of insurance, and regarding only interest proper, or the return for the use of capital, is it not a general truth that interest is high where and when wages are high, and low where and when wages are low? Both wages and interest have been higher in the United States than in England, in the Pacific than in the Atlantic States. Is it not a notorious fact that where labor flows for higher wages, capital also flows for higher interest? Is it not true that wherever there has been a general rise or fall in wages there has been at the same time a similar rise or fall in interest?" (George 1912, p. 23)

755 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

756 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

757 "Interest on commercial capital is composed of this regular payment which, distributed over the total annual transactions, amounts, as we know from thousands of years of experience, to about 4 or 5% per annum of the capital sum involved." (Gesell 1916, Part 5, Ch. 2)

758 Yglesias, Matthew, "The short guide to capital in the 21st century", Vox, 8th Apr 2014, cited 9.4.2014. http://www.vox.com/2014/4/8/5592198/the-short-guide-to-capital-in-the-21st-century

759 See: "4.3.1.1 Land – One Mother of a Monopoly"..

760 See: "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

And according to supply and demand, wages (on average) rise when there is more demand for labor than there is supply ("demand-pull inflation")[761]. Inflation expectations can also cause or maintain inflation as e.g. employees try to maintain their real wage levels – or spend more due to the fear of their savings losing their value ("built-in inflation"). Therefore keeping inflation stable is largely a matter of whether the total demand for labor is in balance with the total supply of labor.

This is why inflation can be controlled with interest rates: *not* because the lower interest rates encourage individuals to take out more loans, which would increase the quantity of money (the Quantity Theory logic), but because the lower interest rates – making both loans cheaper and monetary saving less profitable) can encourage people to spend or invest earlier or decide to work later.[762] This also has significant implications in terms of the concept of NAIRU (the Non-Accelerating Inflation Rate of Unemployment[763]) and the polarization of income differences.[764]

The relation between the interest rate and changes in the price level is also present in the concept of the "natural rate of interest". Knut Wicksell defined it already in 1898 as follows:

> "There is a certain rate of interest on loans which is neutral in respect to commodity prices, and tends neither to raise nor to lower them." (Wicksell 1936, p. 102)

Central bank monetary policy and its impacts are explained in more detail under "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply", including Graph 23 of the causality between the interest rate and inflation pressures.

Because monetarists and also many (New) Keynesians perceive money as a kind of commodity following the same laws of supply and demand as any other consumption or production good,[765] the assumption is that increasing the quantity of money will immediately result in:

- an increased demand for products and services
- a rise in the price level (inflation)
- a reduced interest rate.

Situations where this logic seems to fail – where increases in the supply of base money does not increase aggregate demand nor spur inflation – are considered anomalies. For example the situation at the zero lower bound is called a "liquidity trap". The idea is that money is "stuck in the banks" instead of being "lent out." However, the whole idea that money is something that "is in the banks" and that "banks lend out their reserves" are manifestations of the "commodity money religion" that is supported by the misleading expressions in our languages.[766] Instead, such situations should be clear signals that the quantity of money has no direct causal link[767] to any of the above.

- Total demand (for both consumption and investment goods) and total supply (of labor) are rather affected directly by the interest rate – the cost of borrowing and the profitability of saving.
- The price level (and changes in it, i.e. "inflation" and "deflation") is affected by relative changes between total supply and demand.
- The quantity of money has no effect on the interest rate, as neither the amount of reserves[768] nor the quantity of credit already granted limit how much additional credit can be granted and at what price (interest rate). This is also why the amount of reserves (or base money, MB, i.e. cash and central bank money) does not affect the total quantity of loans made, and therefore it has little impact on broader monetary aggregates like M1 and M2.[769] In the years since the 2008 financial crisis, the amount of U.S. dollar base money has grown many fold, but M1 and M2 have not expanded by even closely the same rates.[770]

According to Alfred Mitchell-Innes's Credit Theory of Money,[771] money can be seen as tokens of credit from its issuer. As cash and bank account deposits are finally backed by the government, increases in the amount of government debt could reduce confidence in that currency.

But bringing this effect back to aggregate supply and demand (of labor) suggests that the connection between government debt and inflation is not necessarily even

761 If the supply of labor is reduced by e.g. lowered expected yield of savings, this could be called "supply-pull" equation – which is not included in the "triangle model" – or seen as a form cost-push inflation.
762 ...if they have that alternative. See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".
763 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
764 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
765 See: "1.2.1 Money Facilitates Trade Through Liquidity and Broad Acceptability".
766 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".
767 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".
768 This can only work in the absence of reserve requirements and even then its effectiveness is questionably. See: "Sidenote Box 2252A: The Actual Policy Tools".
769 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".
770 Federal Reserve Bank of St. Louis, Economic Research, Monetary Data, cited 7.6.2013, http://research.stlouisfed.org/fred2/categories/24
771 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

close to linear,[772] but very speculative and unpredictable in nature. Regardless of how high government debt is, there might still be many unemployed people desperate to work, which can keep wages low. Simultaneously, the employed ones can have a constant desire to save a set fraction of their earnings, regardless of how much they have already saved. This can be due to persistent fears of unemployment, but also e.g. a strong work and frugality *ethic*[773] can sustain stable savings rates (of which Japan and China are arguably case examples).

This saving can keep on "soaking up" the new government debt incurred by steady deficits. However, if rumors cause the public to suddenly lose their confidence in the government's ability to maintain its solvency, the result might be a dramatic hyperinflation, as people suddenly refuse to work for money in which they don't trust and start hastily spending or investing their savings.[774] High government debt is likely to be more destabilizing than directly "inflationary".

This is not to be confused with "the fiscal theory of the price level", which says that any government fiscal policy affects inflation significantly and therefore the government should not run any structural deficits (for e.g. fiscal stimulus through business cycles[775]). (McCullum & Neslon 2006) A deterministic causal relationship here, too, is a rash conclusion. Deficit spending *does* of course increase demand (unless it cannibalizes private demand) without increasing supply directly, which in vast quantities should, *ceteris paribus*, cause a temporary rise in inflationary pressures. But with a too high interest rate, there can still be deflationary pressures even with vast deficits. Once again, the last two decades of Japan and the last few years of many Western countries serve as counterexamples.

When talking about the value of a currency, it is important to distinguish its foreign exchange rate – its price in other currencies – from its purchasing power over local goods and services. Foreign exchange rates are determined by foreigners' demand for the financial assets denominated in the currency and locals' demand for foreign assets. These are largely determined by foreign trade (Chang 2010, p. 105; see: footnote 1471) and foreign investment and, through these, are also influenced by the whole national economy's credit position, its productive capacity and its natural resources (the "resource curse"[776]). But interest rates play a big role in exchange rates as well, as they affect the relative returns on holding these financial assets.[777]

The Quantity Theory might have some long-run logic in a "commodity money" system, where the value of money is largely speculative (like a gold-standard system, bitcoin or "debt free" fiat money as in the "Chicago plan"[778]) and not explicitly declared as any specific party's debt obligation. But as long as "monetary expansion" is the result of additional private debt, it should be noted that all newly "created" money (credit) also creates additional "demand" for the money (credit) – and hence supply of labor – in the form of the additional debt obligation, which requires the debtor to work (or provide something else of value) for this credit to repay his debts (including the interest charged). The mental image behind the Quantity Theory is that there is "*M* amount of money 'chacing' *N* amount of goods and services". But it would be more descriptive of reality to say that there is "*D* amount of mortgages chacing *M* amount of money".

Believing in the Quantity Theory in our current credit money system is practically saying that "people owing each other bigger amounts makes them on average want to buy more things and work less" – which doesn't seem like a logically solid, universal conclusion. In a situation with positive interest rates and no wage regulation, the effect might actually be the opposite: The additional debt makes some more desperate to find earning opportunities while the holders of the credit (money) don't have any hurry to spend their savings, as holding on to them remains profitable. More on the whole conundrum of causality in "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

As inflation is a very charged term and unavoidably carries with it the etymological burden of the Quantity Theory, it might be useful to consider calling the rise of the general price level something else – especially when discussing the matter with fans of Austrian economics. How about "the non-nominal interest rate"? Or "prication"[779]?

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772 "Non-linearity", entry, Investopedia, cited 13.6.2013, http://www.investopedia.com/terms/n/nonlinearity.asp

773 See: "4.1.6.2 Making Sharing Work Socially Acceptable" and this book's sister, "The Guilt Economy".

774 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

775 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

776 See: "3.1.6.3 The U.S. Case – Chronic Overvaluation of the Global Reserve Currency".

777 See: "3.5.3 The Advantage of the Possibility of Negative Interest Rates".

778 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

779 In Finnish this might be "hintaatio", in French e.g. "prixation".

2 COMPARING OBJECTIVES AND MEANS – DIFFERENT ECONOMIC SCHOOLS AND THE ROOT BUG HYPOTHESIS

"In economics, the majority is always wrong." – John Kenneth Galbraith

"If you want the truth to stand clear before you, never be for or against. The struggle between 'for' and 'against' is the mind's worst disease." – Sent-ts'an, c. 700 C.E.

"We are so constituted that we believe the most incredible things; and, once they are engraved upon the memory, woe to him who would endeavour to erase them!" – Johann Wolfgang von Goethe

"You are never dedicated to something you have complete confidence in. No one is fanatically shouting that the sun is going to rise tomorrow. They know it's going to rise tomorrow. When people are fanatically dedicated to political or religious faiths or any other kinds of dogmas or goals, it's always because these dogmas or goals are in doubt." – Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance (2006)

"Upon high economic authority we have been told that the prevailing depression is due to over-consumption; upon equally high authority, that it is due to over-production; while the wastes of war, the extension of railroads, the attempts of workmen to keep up wages, the demonetization of silver, the issues of paper money, the increase of labor-saving machinery, the opening of shorter avenues to trade, etc., are separately pointed out as the cause, by writers of reputation." – Henry George, Progress and Poverty (1912, p. 20)

"If you get all your ideas of the other side from the internet, where there is no human connection, it's just so easy and automatic to reject it and demonize it. So, once we've sorted ourselves into homogeneous moral communities it becomes a lot harder to work together." … "[T]he Matrix is a consensual hallucination generated by computers and then we all live in it. And I think this is a brilliant social psyc[hology] metaphor. Back when we all encountered people of the other party, you couldn't have a consensual hallucination that wasn't interrupted by other people – but once we can all live in these lifestyle enclaves: we only watch certain TV shows, we only watch certain websites, we only meet people like us, the Matrix gets so closed in, that each side here lives in a separate moral universe with its own facts, its own experts, and there is no way to get into the other Matrix – you can't just throw arguments or scientific studies at them and say: 'Here conservatives, deal with this finding!' It's not gonna do anything." … "We all feel as though we're living in reality, but them, they're caught up in this Matrix, they're in Lah-lah-land. But we're all in Lah-lah-land. If you are part

of a partisan community – if you are part of any community that has come together to pursue moral ends, you are in a moral Matrix." – Jonathan Haidt[780]

"'Would you tell me, please, which way I ought to go from here?' said Alice.
'That depends a good deal on where you want to get to,' said the Cat.
'I don't much care where – ' said Alice.
'Then it doesn't matter which way you go,' said the Cat." – Lewis Carroll, Alice's Adventures in Wonderland

780 15:25-> 15:50-> & 16:46-> Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMctAY4

2.1 NORMATIVE PRINCIPLES – WHAT DO WE WANT FROM AN ECONOMIC SYSTEM?

In short:

- ***Positive economics tries to explain causalities in economic systems and the behavior of other large groups of people.***
- ***Normative economics takes stances on how a "good" economy works and makes policy suggestions for making it work more that way.***
- ***People's "values" regarding their own lives and their "values" regarding how an economy should work might be very different. In fact, furthering one's personal goals through politics is often not a motivating way of achieving them – like trying to score more goals in soccer by lobbying for bigger goals.***
- ***Still it happens unfortunately often and ideologically framed normative premises are often used to hide or justify interest group ambitions.***

"A defect is something that's wrong. Now this should be perfectly obvious: When you get rid of something you don't want, you don't necessarily get what you do want. And so finding deficiencies and getting rid of them is not a way of improving the performance of the system." ... "Take a television set. Go in and turn it on right now. What's the probability of getting a program you want. Now, you probably haven't calculated it and I have: 0.01. Now that's a defect I can very easily get rid off. All I have to do is turn the channel. What's the probability of getting a program I want? Still 0.01, which means I have a 50-50 chance of getting a program I want even less." ... "Basic principle: An improvement program must be directed at what you want – not at what you don't want. And determining what you want requires redesigning the system – not for the future but right now – and asking yourself what would you do right now if you could do whatever you wanted to." [781] – Russ Ackoff [782]

"What kind of a structure do we need? A bit more room up top is provided by John Harsanyi's important distinction between a person's 'ethical' preferences and his 'subjective' preferences: 'the former must express what this individual prefers (or, rather would prefer), on the basis of impersonal social considerations alone, and the latter must express what he actually prefers, whether on the basis of his personal interests or on any other basis.' This dual structure permits us to distinguish between what a person thinks is good from the social point of view and what he regards as good from his own personal point of view." – Amartya Sen, Rational Fools: A Critique of the Behavioral Foundations of Economic Theory (1977, p. 336)

"Justice must always question itself, just as society can exist only by means of the work it does on itself and on its institutions." – Michel Foucault

"[E]very normative theory of social arrangement that has at all stood the test of time seems to demand equality of ***something***..."

781 Russ is here talking about optimizing a system for specific needs and specific conditions. However, it is noteworthy that optimizing a system for the current situation easily makes it less adaptable and more fragile to unexpected changes. As Gerd Gigerenzer says: "You need something that works in an uncertain future – not something that is optimal in the past."
– 3:20->, Gigerenzer, Gerd, "What Can Economists Know? 2/5", lecture, viewed 20.8.2013, http://www.youtube.com/watch?v=DdEEwoKk-fMA&nomobile=1

782 8:33->, "If Russ Ackoff had given a TED Talk...", a presentations in 1994, viewed 16.10.2013, http://www.youtube.com/watch?v=OqEelG8aP-Pk

– Amartya K. Sen, Inequality Reexamined (1992, p. 12)

"The arguments advanced by average politicians and writers against socialism are either silly or irrelevant. It is useless to stand upon an alleged 'natural' right of individuals to own property if other people assert that the foremost 'natural' right is that of income equality. Such disputes can never be settled." – Ludwig von Mises, Human Action (1963, p. 284-285)

"I'm fascinated by a question and I know I'm not the only one. 'What should economies be aimed at?' ... Well, I studied economics at university twenty years and we never actually asked that question, even though it seems like a very fundamental one..." – Kate Raworth[783]

"A bad system will beat a good person every time." – W. Edwards Deming

"Whatever belief you belong to, there's still always a reason to doubt.
And there's always another opinion as to what life is all about.
There's always a bigger dimension and a different point of view,
so I don't want to try to change you – that decision is up to you."
– Clawfinger, Two Sides

The Third Hawaiian Huna Principle: "Makia – Energy flows where attention goes."[784]

In the first volume, we presented models of the current structure and functionalities of the economic system and market economies in general. But what was it exactly that we were trying to achieve with an economic system? Whereas *positive economics* only aims to describe and predict how economic systems behave – including establishing causal relationships between phenomena – *normative economics* aims at finding suggestions on how to build, change or influence an economic system so that it better meets some desired criteria or achieves certain outcomes.

Different economic schools are – or at least claim to be – mainly debating over positive questions: how economic mechanisms work, i.e. the causal relations between phenomena and different factors.[785] The debate is over the most effective *means* for achieving specific ends. Diversity of political opinion, however, is not only a result of different competing theories of how an economy works, but also different emphases between normative objectives: what kinds of things do we want our society to provide and facilitate?

In "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", we explained how a rational agent would try to maximize value – and how, in practice, this is seldom what determines people's decisions and actions. In "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources", we suggested that if we are to compare the "efficiency" of economic systems, we need to determine some kind of criteria by which we can rate the system – e.g. what the "value" is that they should be maximizing or producing as efficiently as possible (for their participants?).

However, setting such explicit measures is dangerous if we are not sure that those fully encompass what we really want to achieve. According to the Vanguard management method, "purpose" has to come first and any "measures" for the goodness of a system or process need to be derived directly from that purpose. Setting arbitrary measures will create a *de facto* purpose that easily overrides any higher-level objectives.[786] Means become ends. And there are purposes that are almost impossible to quantify completely into numbers.[787]

Now, it is important to remember that the objectives of an agent within a system are not necessarily the same as the objective or purpose of existence of the whole system, as is the case with the objectives of individual companies versus the purpose of the whole market.[788] Therefore, it is also important to distinguish between what a person's values are in his personal life and what his opinion is regarding how the economic system should function, how it should develop and what it should produce or maximize.

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783 0:27->, Raworth, Kate, "Doughnut Economics: Creating a safe and just space for humanity", viewed 18.6.2013, http://www.youtube.com/watch?v=CqIL-cM8gb4#

784 Kahili King, Serge, "The Huna Principles", Namaste Café, cited 17.7.2013, http://www.namastecafe.com/lori/huna_prin.htm

785 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

786 "Thinking things: Purpose measures method", Vanguard Consulting, viewed 12.11.2013, https://www.vanguard-method.com/content/2/thinking_things/#video , second last clip.

787 Campbell's law – how measures start corrupting purposes – and the trouble with e.g. "welfare indexes" is discussed in more detail under "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

788 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

This distinction is related to the distinction between "morals" and other preferences, which e.g. John Harsanyi calls "subjective preferences". (Sen 1977, p. 336)

> "This dual structure permits us to distinguish between what a person thinks is good from the social point of view and what he regards as good from his own personal point of view." (Sen 1977, p. 336)

More generally, philosophers tend to debate over the difference between *ethics* and *aesthetics*. According to the emotivist view of ethics, also ethical values are subjective: Making a moral statement is merely expressing one's emotions and asking others to share them (and act on them). So morals essentially are values or feelings that we somehow consider universally acceptable and expectable.[789] Generalizability was also the other of Immanuel Kant's principles for ethical rules.

Such distinctions become even more relevant when we realize (or consider the possibility) that happiness (the perceived worthwhileness and other value of one's life) is not determined by what one has, but more by a sense of progress, control and purpose – the *direction* rather than the *state* of things. Hence, happiness can be *increased* by challenges![790]

It can be assumed that many people never bother to make this distinction (between the personal objectives they strive for and the ends they set for economic systems), which is quite natural, as the human need for a sense of purpose and our tendency to minimize effort easily lead us to try to find some kinds of absolute, universal values in our lives – and others' lives. Jonathan Haidt proposes that the sacralization of certain ends is also a big part of what gets people to come together to form societies and to cooperate effectively.

> "Our moral sense really evolved to bind groups together into teams that can cooperate in order to compete with other teams." ... "[P]olitics is really religion – politics is about sacredness." ... "The problem is that whoever has the reigns of government, uses it for moralistic purposes. They use it to further their sacred ends. And they use it to channel money and programs and largesse to their favored groups. So, people on the right don't trust government to do what's right with their tax dollars."[791]

789 The essence of ethics is discussed in more detail in the intro of this book's sister book "The Guilt Economy".

790 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

791 3:36->, 29:16-> & 44:15->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

Take the following analogy: A soccer goalkeeper, in every match and during the whole season, tries to minimize the amount of goals scored behind his back and for a professional soccer goalie this objective can be almost a matter of life and death. But would he, given the opportunity, support a change in soccer rules that would make it harder to score goals, e.g. making the goals smaller? I doubt many would – regardless of whether the new rule affected all goals or only the goals the goalie in question was keeping. In some sports, the situation is not quite so. For example in motor sports, rules and regulations on engine sizes, types of wheels allowed and other technological limitations are constantly changed and trying to influence these rules to make them favorable for one's own team's technological capabilities can become a significant part of the sport itself. For many viewers and drivers, this is likely to make the sport less interesting to follow and they'd find it more rewarding to see someone win or lose in the sport itself given some more "objective" criteria, than on the grounds of the political game in the background. Also, in sports generally, using rules in ways for which they are not intended is often frowned upon. For example, getting a penalty kick by purposefully diving in front of the opponent's goal is one of the least "honorable" ways of winning a soccer game.

Similarly, one might argue that achieving something (e.g. material benefits, positions of high status) for oneself through political means is far less motivating than achieving them in other ways (unless you are a politician). And that someone else achieving those ends for you by political means is even less so. Many ends and values in one's life might have no or little effect on one's political opinions. If you value completing marathons, you are still unlikely to make encouraging other people to do so a political issue. On the contrary, you might take pride in how uniquely good you are at running.

We'll return to this "game design perspective" to societal norms in "2.1.6 Conclusions – How about a Game Design Approach?" Here the point was to emphasize why it is important to distinguish between a person's "values" in his personal life and his "values" when it comes to politics. Currently, many people and groups of them have ended up furthering their own personal values mainly through political means – playing the game itself through the rule-setting game, like a goalie focused on lobbying for smaller goals. The way in which democracy allows interest groups to gain benefits on the expense of others also creates a kind of massive Prisoner's Dilemma, where people are forced, in their political efforts and voting, to mainly look after their own interests and the interests of the groups they belong to simply out of fear of being robbed through the privileges and transfer payments others happen to get passed if they don't look after theirs.[792]

792 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

However, even interest group politics is often disguised as – or at least justified with – some kind of more objective-looking ideology of how a society should work. For characterizing the differences between such ideologies, some central questions are:

- Is there a "natural way" in which things – human interaction, their rights etc. – should be arranged (deontological premises)?
- What is "fairness" or "justice"?
- If an economic system should be maximizing value, what is this "value" that an economic system should be maximizing – how is its "efficiency" measured?
- For whom should such value be maximized and to whom should such criteria of justice apply?

The last point is crucial as in many economic systems there are some groups that are explicitly privileged over others (e.g. feudalism, caste systems, slavery). In today's world "equality" is an almost universally accepted catchword although there is large disparity in what people consider equality to mean – e.g. equality before the law, equality of opportunity (Hayek 1978), income equality,[793] equality of political power or equality of status.[794] As Amartya Sen put it aptly:

> "Two central issues for ethical analysis of equality are: (1) Why equality? (2) Equality of what?" ... "[E]very normative theory of social arrangement that has at all stood the test of time seems to demand equality of something – something that is regarded as particularly important in that theory." (Sen 1992, p. 12)

When framed right, many things can be called "equality" – though probably not quite as many as can be called "freedom."[795] However, even in today's world – where actual slavery and caste systems are abhorred – hardly any political ideologies in Western countries truly consider people in poorer countries to be equal with people in Western countries in almost any of the above listed senses – which is a taboo-level inconvenient truth.[796] [797] (Hayek 1978; Chang 2012, p. 23-30)

The conception of what "value", "happiness" and "welfare" fundamentally are and how they can be promoted differ significantly and result in completely different normative conclusions even within the utilitarian perspective aiming at maximizing "happiness".[798]

Because legislation and other political decisions regarding our economic system affect all citizens, and because public funds are in a sense all citizens' funds, such normative principles can usually be considered "moral" questions – we require others to accept them enough to agree to live with them too, at least in democracies. And the nature of morality is a subject of this book's sister, The Guilt Economy. In this section, we'll present a couple of normative ideologies or sets of principles that different political views and economic schools have adopted and advocated. We discuss some potential conflicts between them, internal incoherences as well as question possible claims of objectivity or universality and present a new alternative at the end. But the purpose is not to "attack" or reject any normative premises as such. Recognizing differences in normative views mainly serves to assess how fixing the Root Bug and versions of "root-debugged" economy would suit the political interests of different existing ideological groups. Also, the questioning views presented here are likely to prove useful for anyone wishing to clarify their stance and strengthen their arguments and justifications for it.

> "Never believe fully in anybody else's B[elief] S[ystem]." ... "[D]on't swallow all of their belief system totally." ... "The second rule is...: Don't believe totally in your own B.S., which means that, as Bucky Fuller said: 'The universe consists of non-simultaneously apprehended events'. ... "[W]hich means any belief system or reality tunnel you've got right now is gonna have to be revised and updated as you continue to apprehend new events later in time." – Robert Anton Wilson[799]

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793 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".

794 See: "2.2.3.7 Participatory Economics – 'Let's All Decide on Things Together'".

795 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

796 See: "3.3.4 Slave-Rate Wages, Inhumane Working Conditions and Child Labor".

797 "[A]nother argument on which the demands for a more equal distribution are frequently based, though it is rarely explicitly stated ... is the contention that membership in a particular community or nation entitles the individual to a particular material standard that is determined by the general wealth of the group to which he belongs. This demand is in curious conflict with the desire to base distribution on personal merit. There is clearly no merit in being born into a particular community, and no argument of justice can be based on the accident of a particular individual's being born in one place rather than another."... "There is no obvious reason why the joint efforts of the members of any group to ensure the maintenance of law and order and to organize the provision of certain services should give the members a claim to a particular share in the wealth of this group. Such claims would be especially difficult to defend where those who advanced them were unwilling to concede the same rights to those who did not belong to the same nation or community." (Hayek 1978)

798 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

799 Wilson, Robert Anton, "Don't Believe In Anybody Else's BS", viewed 1.8.2014, https://www.youtube.com/watch?v=zTLkiJUX05A

2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice

In short:

- ***Consequentialist libertarianism wants to maximize people's chances of doing as they please as long as they don't interfere with others' chances of doing so.***
- ***Deontological (or "natural rights") libertarianism starts from the axiom of the natural right of self-ownership (ownership of one's own body) deriving from it the non-aggression principle and rights to all kinds of personal property and shuns other forced restrictions on individuals' rights.***
- ***Modern research suggests that maximal freedom and choice do not necessarily facilitate maximal happiness or satisfaction (which are not necessarily the same thing). "Natural rights libertarians" don't take "happiness" or "welfare" as any kinds of maxims.***

"Man is condemned to be free; because once thrown into the world, he is responsible for everything he does." – Jean-Paul Sartre

"They who can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety." – Benjamin Franklin

"Life without liberty is like a body without soul." – Khalil Gibran

"Choices are bad." ... "Choices are really bad." – Yoram Bauman, Principles of economics, translated[800]

"So what do we do, when the world is so complex and our ability to understand it so limited? Simon's answer was that we deliberately restrict our freedom of choice in order to reduce the range and the complexity of the problems that we have to deal with." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 175)

The Second Hawaiian Huna Principle: "Kala – There are no limits."

"You want to feel free to make mistakes. I think I objected not being reasoned with." ... "Ultimately, I think, what I object to is being treated like a schoolboy – being told my own good." ..."Human beings are children, we must first herd them together, create certain institutions, make them obey orders and we hope later make them see how well we've done for them. And they will become rational in the course of...' This is exactly what the British Empire felt towards colored people in Africa. It is exactly what school masters feel towards children. And it always leads to bad consequences in the end." – Isaiah Berlin[801]

The normative premise of *consequentialist libertarianism* is that people should be allowed to live as they please as long as they don't prevent anyone else from doing to so[802] [803]. Unfortunately this is not the outcome of an anarcho-capitalist "completely free market", as explained in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land". People are able to restrict others' positive freedom – without stealing or trespassing on their private property – by hoarding limited, vital resources and imposing externality costs on each other. By limiting some negative freedom – i.e. making some restrictions or imposing penalties on negative externalities – we can achieve higher positive freedom: increase the possibilities and choices available to people.

800 1:20-> & 1:34->, Bauman, Yoram, "Principles of economics, translated", standup comedy show, viewed 18.7.2013, http://www.youtube.com/watch?v=VVp8UGjECt4

801 3:30->, Curtis, Adam, "BBC - The Trap, What Happened to Our Dreams of Freedom, 3of3 - We Will Force You to Be Free", documentary, viewed 16.9.2013, http://www.youtube.com/watch?v=Zxi6QIpdhh8

802 1:29->, 2010, "Take It to the Limits: Milton Friedman on Libertarianism", Interview with Milton Friedman on Uncommon Knowledge, viewed 10.4.2013, http://www.youtube.com/watch?v=JSumIxQ5oy4

803 "Libertarianism seeks to provide free-will participants the ability to make decisive decisions without the government determining or influencing the outcome, as long as it does not harm other individuals." – "Libertarianism", BusinessDictionary.com, cited 8.5.2013, http://www.businessdictionary.com/definition/Libertarianism.html

It could easily be argued that – because of the versatility of human preference and our severe inability to understand each other's preferences[804] – maximal positive individual freedom would also facilitate maximal total value and welfare. However, for example philosopher Jean-Paul Sartre would be one to disagree with this assumption, noting that people *are* "condemned to be free", but this "nausea" of existence (Sartre 2007) – the burden of choice and responsibility this freedom imposes on one – is often too much to bear and therefore people tend to renounce their freedom and responsibility by e.g. accepting whatever role society imposes on them and doing what they must to fulfill their chosen characters' destinies. (Sartre 2012)

A certain amount of freedom (or at least a sense thereof) might increase one's happiness, but it can be argued, as social theory professor Barry Schwarz does, that Western countries "have long since passed the point where options improve our welfare". Firstly, the more options are available, the more likely we are not to make a choice at all, due to e.g. the required effort to assess the alternatives and the resulting fear in making "the wrong choice". Secondly, the number of choices available – regardless of what we choose – makes us less satisfied with the choices we end up making.[805] We could see this as "opportunity costs"[806] increasing: The more alternatives a person knows about, the more he is "losing" – the less additional or relative value he is achieving – with every choice.

Thirdly, Schwarz suggests that added choice raises expectations, which increases disappointment and dissatisfaction. But here (just like Dan Gilbert[807]), when Schwarz is talking about "happiness" (and that "the key to happiness is low expectations"), he is talking about *satisfaction*! If we see value as satisfaction, then having good alternatives can raise our expectations and make us less satisfied with the choice we make (in comparison to having one superior alternative). If we, instead, see happiness as *appreciating*,[808] then it is probably more of a personal question whether "missing out" on other good options makes us *appreciate* our final choices – and the choice process itself – less or more.

But too much choice and ambiguity that makes us lose our sense of direction can also decrease appreciation and the worthwhileness of our lives. Sartre and Schwartz are not the only ones to argue that too much freedom easily leads to an existential crisis and a loss of meaningfulness (e.g. Pink 2009) and therefore a society with a more limited set of options could be considered better able to maximize happiness.

Moreover, even many liberal economists and thinkers argue that rational action isn't possible unless expectations of others' behavior can be made and that this requires some kind of externally imposed code of conduct or restrictions.[809]

Nevertheless, even if additional choice does not make us happier, it can be argued that a central government – democratic or not – cannot decide over an optimal amount of choice, and that such restrictions should be left for individuals themselves and lower level, voluntary societies. We'll return to this in: "2.1.6 Conclusions – How about a Game Design Approach?".

The more "extreme", deontological libertarians or "philosophical libertarians" – "natural rights libertarians" and anarcho-capitalists among them – don't make maximal experienced human value or maximal positive freedom maxims of any kind. Instead, they start from "natural rights", most notably self-ownership and the non-aggression principle (NAP): that it is immoral to initiate violence or force against anyone else – or threaten with it. Many also deduce the rights to private property from the principle of self-ownership.[810] [811]

Now, the question of what counts as "initiating force" is not as simple as one might intuitively expect. If I take hold of a significant part of vital, limited resources and prevent you from accessing them (e.g. fresh water in a desert), which ends up in you dying, many natural rights libertarians would not consider that to be "initiation of force" although the causal relationship is the logical

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804 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

805 Schwartz, Barry, 2005, "The paradox of choice", TED Talk, viewed 8.5.2013, http://www.ted.com/talks/barry_schwartz_on_the_paradox_of_choice.html

806 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units

807 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

808 See: "6.1.2 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

809 "Nevertheless, as Simon (1957, 1983) argued earlier and Heiner (1983) and Loasby (1991) elaborated more recently, agents with bounded rationality need some behavioural rules which limit the flexibility of their actions, in order to cope with the complexity of the world. In other worlds, '[a]n omni-flexible world would be uncertain [to the agents with bounded rationality] as to make action completely impossible'. (Nielsen, 1991: 8) Hayek's discussion of the role of 'tradition' is also based on the idea that the unquestioned acceptance of certain rules is necessary for the development of reasoned behavior (Hayek, 1988: 11-28). On a less abstract level, Williamson and others have shown that in a world inhabited by agents with bounded rationality, a hierarchical mode of co-ordination, which restricts the flexibility of actions of its members, may be more efficient when investments involve asset specificity (Williamson, 1975 and 1985)." (Chang 1996, p. 202)

810 Stefan Molyneux, a famous advocate of anti-statist libertarianism, is one who is of this opinion that libertarianism is not attempting to maximize freedom but enforce its moral code: "Freedom is not the goal – morality is the goal."
– 0:59->, Molyneux, Stefan, 2011, "Jon Stewart's 19 Tough Questions for Libertarians!" viewed 5.5.2013, http://www.youtube.com/watch?v=4hhSslpjtzY

811 See: "Sidenote Box 117A: Ownership as an Idea, Feeling, Relationship or Extension of the Self?".

equivalent of depriving you from oxygen by choking you with a plastic bag. Let's take some other difficult cases. If I cut down a branch on which you are leaning (and which is not your property) at the edge of a cliff, have I initiated force on you? Did Scar really "kill" Mufasa when he detached Mufasa's paws from his own at the edge of the cliff before Mufasa hit the ground lethally? If I build a dam (or destroy a dam I've built), which results in the water level rising and drowning your family into their beds at night, have I initiated force on them? And if that is not an initiation of force, then how about when a bullet, which has been set in motion by an explosion of gunpowder, which I triggered, hits you lethally? I have not impeded your personal space.

Steven Pinker (2007, p. 208-233) deals in due detail with this dilemma of causality and the "force-dynamic mindset", which dominates our intuitive conception of causality[812] and is very strongly present also in the non-aggression principle.[813] The chapter "Cleaving the Air" in Pinker's book should be compulsory reading for any deontological libertarian. Also, isn't the right of a landowner to prevent others from doing things in the space above his land[814] ("trespassing") by the threat of violence clearly a form of "aggression", just like the involuntary laws and their enforcement imposed by the central government of a state in the natural rights libertarian perspective?

Accepting the conclusions of most deontological libertarians and allowing complete private ownership of limited natural resources (including land) and not allowing any force to limit imposing externality costs on others (except for landowners on anything "trespassers" do), would lead to a society that could be described as "Darwinian", instead of a fair market economy: making evolutionary natural selection of the fittest and the most ruthless (and their offspring) the only definition of justice, as is discussed in more detail in "6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest". (And it is unlikely that people would respect others' private property in such situations.[815]) And if that is the kind of society one wants, then deontological libertarianism might be worth fighting for.

It is, however, likely that, in such a law-of-the-jungle-world, emerging organized societies with rules – enforced with some kind of threat of force[816] – would dominate over anarcho-capitalist areas composed of individuals with no respect for authority and smaller societies only based on communal, "Gemeinschaft-type" relationships.[817]

While natural rights libertarians claim to have found final proof for the right of individuals to "homestead"[818] things and then own them perpetually without limitation, term or cost,[819] one could just as (or even more) easily justify a "natural right" to use all natural resources without limitation, as e.g. Henry George did:

> "The equal right of all men to the use of land is as clear as their equal right to breathe the air – it is a right proclaimed by the fact of their existence. For we cannot suppose that some men have a right to be in this world, and others no right." (George 1912, p. 200)

As Ludwig von Mises (a renowned libertarian and Austrian economist) concludes:

> "It is useless to stand upon an alleged 'natural' right of individuals to own property if other people assert that the foremost 'natural' right is that of income equality. Such disputes can never be settled." (Mises 1963, p. 284-285)

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812 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

813 Remaining loyal to the non-aggression principle, e.g. Murray N. Rothbard draws the conclusion that parents have no right to commit any violence against their child (e.g. mutilate, torture or kill it), but have every right to choose not feed it and let it starve to death.

> "The parent therefore may not murder or mutilate his child, and the law properly outlaws a parent from doing so. But the parent should have the legal right not to feed the child, i.e., to allow it to die. The law, therefore, may not properly compel the parent to feed a child or to keep it alive. (Again, whether or not a parent has a moral rather than a legally enforceable obligation to keep his child alive is a completely separate question.)" (Rothbard 1998, Ch. 14)

Someone else might consider these *causally equivalent* ways of getting rid of a child, and possibly even think of the former forms of killing as more humane than starvation. It is also quite curious how Rothbard treats the non-aggression principle here as something distinct from "morality" although essentially the NAP is a moral stance.

> "The non-aggression principle (also called the non-aggression axiom, or the anti-coercion or zero aggression principle or non-initiation of force) is an ethical stance which asserts that "aggression" is inherently illegitimate." ... "The principle is a deontological (or rule-based) ethical stance."

– "Principle of non-aggression", Mises.org Wiki, cited 28.5.2014, http://wiki.mises.org/wiki/Principle_of_non-aggression

814 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

815 See: "3.2.6 Effects on Crime".

816 A potential threat of punishment significantly increases cooperation, see e.g. 11:40->, "Jonathan Haidt: The moral roots of liberals and conservatives", viewed 5.5.2013, http://www.ted.com/talks/jonathan_haidt_on_the_moral_mind.html

817 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

818 See: "4.3.1.5 Other Objections to and Concerns with Land Value Taxation".

819 "Hence, all legitimate property-right derives from every man's property in his own person, as well as the "homesteading" principle of unowned property rightly belonging to the first possessor." (Rothbard 1998, p. 60)

2.1.2 Life, Diversity and Sustainability as Normative Maxims

In short:

- ***Conservation and preservation are not the nature of nature, ecosystems or biological life in general. "Sustainability" does not mean "permanence" or absence of change or destruction.***
- ***Conservation of biodiversity and natural environments can be justified from a consequentialist libertarian starting point, as destroying irreplaceable natural assets severely limits others' freedom to do things with those assets in the future.***

"Nature will get rights as soon as it gets duties. The minute we see birds, trees, bugs, squirrels picking up litter, giving money to charity, and keeping an eye on our kids at the park, we'll let them vote." – P.J. O'Rourke, All the Trouble in the World

"I have long been impatient with 'sustainability,' as if that were an end in itself. Isn't it more important to think about what we want to sustain, and therefore what we want to create? Many beautiful, necessary things are not sustainable: pregnancy, for example." – Charles Eisenstein, Sacred Economics (2011)

Human: "Mother Gaia, I come on behalf of all humans to apologize for destroying nature and beg for forgiveness."
Mother Gaia: "Oh my beloved self-centered humans..."
Human: "We're sorry for being so selfish. We never meant to kill nature."
Mother Gaia: "That wasn't what I mean by self-centred. Nature is adaptable. No matter what you do to it it will simply change and take on new forms. It has survived worse things than you. You are however in the process of changing it so much that you can't live in it. You're not killing nature; you're killing yourself. That's what I meant by self-centred. You think that just because you can't live, then nothing can."
Human: "What?"
Mother Gaia: "You're f**king yourself over big time and won't be missed."
– "Mother Gaia" comic strip by 'Humon"[820]

As discussed in "Sidenote Box 113A: Objective Value Theories and Morality", some people believe in objective values. And who wouldn't want to find something universal that cannot be doubted, disputed or deemed a matter of taste. Nature and life – as biological phenomena – are some that are often advocated by environmentalist movements. The author – although very much in favor of promoting sustainability and preserving biodiversity for future generations – finds such "objective values" hard to justify "objectively". A person can of course attribute "Beauty value" to experiences that natural environments provide or make e.g. preserving natural environments a "Game value"[821] and therefore objectives in themselves, but there is no justification to require others to value the same kinds of environments.

Also, nature itself, through the evolutionary processes of mutation, recombination and natural selection, is in a constant state of "creative destruction" (similarly to capitalism in Jospeh Schumpeter's view) in which extinctions of species and other forms of reduction in diversity also have a natural part. Nature or life itself cannot be said to value "preservation" or "permanence" in anyway – if giving it the capacity to "value" anything is a sensible personification in the first place. Nature seems to "favor" some diversity, which is understandable as diversity – e.g. the existence of many species of water birds or butterflies and diversity within the species – makes each species and genus and the whole ecosystem less fragile and more adaptable (to e.g. climate changes or immigrant species). But in this sense, for nature itself, diversity exists to be "lost" – not be increased to perpetuity. When dinosaurs didn't "work" in – or fit in with – the new climate anymore, nature "got rid" of them (excuse the personification).

"Sustainability" and especially "sustainable development" in today's world have become quite some hype words and also very versatile and hence vague in their definitions. But as defined by e.g. the "Brundtland Report" in 1987 as "development which meets the needs of the present without compromising the ability of future generations

820 "Mother Gaia", comic strip, cited 2.7.2013, http://humon.deviantart.com/art/Mother-Gaia-207388674
821 See: "6.1.2 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

to meet their own needs" (Drexhage & Murphy 2010), it can be one quite sensible and worthwhile objective for a society. Starting from the previously presented consequentialist libertarian principle,[822] it is fairly easy to justify protecting irreplaceable biodiversity and environmental sustainability in general; in other words, leaving things in a form at least as useful and valuable to human beings as they were before use. Degrading natural capital is passing costs onto others, our future selves and future generations. Permanently destroying irreplaceable biodiversity and habitats is a severe form of interfering with others' choices of how to lead their lives in the future.

Such sustainability also fits well with a Rawlsian view of justice and the "game design approach" that will be introduced.[823] Many games are built around the objective of survival and a game where one can lose one's ability to play parts of the game forever would be quite frustrating. Good games are often designed with the opportunity to unlock new possibilities (granting a sense of progress[824]) rather than losing them without even a chance to get to try them.

822 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".
823 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance" and "2.1.6 Conclusions – How about a Game Design Approach?".
824 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

2.1.3 Anarchist Communism: 'Everyone According to His Ability, to Everyone According to His Needs'

In short:

- ***Some anarchist communists seem to assume that people know what they want and what others want – and that this includes an absence of authority. Questioning these assumptions leads to completely different normative conclusions from the initial premise of the title than abolition of private property.***

Anarchist communism suggests the abolition of the state, capitalism, wages and private property (except for movable "personal property") in favor of common ownership of the means of production, direct democracy, and a horizontal network of voluntary associations and workers' councils. (Berkman 1929, p. 239) A normative principle behind these policy conclusions is: "From each according to his ability, to each according to his need". Alexander Berkman (1929) presented some assumption of human nature and human needs that would translate this underlying principle into the first mentioned means as follows:

> "But you yourself know very well what you want, and so does your neighbor.
>
> You want to be well and healthy; you want to be free, to serve no master, to crawl and humiliate yourself before no man; you want to have well-being for yourself, your family, and those near and dear to you. And not to be harassed and worried by the fear of tomorrow. You may feel sure that every one else wants the same. So the whole matter seems to stand this way:
>
> You want health, liberty, and well-being. Every one is like yourself in this respect.
>
> Therefore we all seek the same thing in life.
>
> Then why should we not all seek it together, by joint effort, helping each other in it?
>
> Why should we cheat and rob, kill and murder each other, if we all seek the same thing?
>
> Aren't you entitled to the things you want as well as the next man?

> Or is it that we can secure our health, liberty, and well-being better by fighting and slaughtering each other?
>
> Or because there is no other way?
>
> Let us look into this.
>
> Does it not stand to reason that if we all want the same thing in life, if we have the same aim, then our interests must also be the same? In that case we should live like brothers, in peace and friendship; we should be good to each other, and help each other all we can." (Berkman 1929, p. 5-6)

Clearly we can see the assumptions that:

- All people want the same things and therefore we know what others want.
- Happiness/welfare is the absence of worry, fear, hunger and pain.
- People are intolerant of any restrictions, authority or externally given objectives and these are insults to a human being's self-worth.

And in light of these assumptions, the conclusions can be considered sensible. However, all of these claims can be refuted both introspectively and empirically. Changing these assumptions of human nature results in wholly different conclusions from the principle of "from each according to his ability, to each according to his need".

Firstly, a worthwhile and valuable life – which is what most people would prefer to live – is not simply one absent of pain and worry, as a lot of modern positive psychology suggests.[825] Secondly, not all people are as authority-phobic as many anarchists believe. Instead, most people thirst for some kind of direction or guidance: being given clear rules and objectives might facilitate a better sense of progress, control and purpose, and assigning team members clear roles and responsibilities – even to the extent of some hierarchy – can make cooperation both more efficient and more motivating.

Thirdly, as explained in "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy", we really don't know what others need. A term leaving significant room for interpretation of the principle is "need". Hardly anyone would say that needs are "ones and zeros" – that you either have a need or you don't. Needs – the fulfillment of which is often referred to as "utility" or "value" in economics – can have different strengths and as they are subjective, they are almost impossible to measure except when one is forced to compare them to other needs.[826] A big challenge with making an optimal system in terms of these maxims is how to weigh the versatile needs of different people against each other. The distinction between "needs" – as in anything that might have value – and "vital needs" – things necessary for physical survival – is discussed in "The Guilt Economy".

This also applies to ability: Theoretically we can get an enormous amount of effort out of people – both physical exertion and creative potential. But maximal effort does not make sense as an objective. A second challenge is how to encourage everyone to develop and utilize their "abilities" in the direction of the needs of the society sufficiently to fulfill everyone's needs – and what is "sufficiently"? How to weigh "effort" (costs) against "needs" (value)? What needs are really worth the required effort? [827] And what about risk? Who bears risks and decides whether to take them – whether the potential positive outcomes of activities are worth the risks or not?[828]

Many communist perspectives aim at a return to small-scale local communities functioning on personal, empathic relationships and believe that this sense of community and the possible personal image gains from any contribution would be motivators enough. This, however, still makes comparing needs (value) with efforts and risks (costs) quite difficult, resulting in potentially beneficial things being left undone and things with total negative value being done. It can therefore be argued that some form of market economy could fulfill the principle "from each according to his ability, to each according to his need" much more efficiently than the abolition of private property and other restrictive legislation enforcing e.g. the repayment of credit (accounted trust) between people.[829] As Henry George puts it:

> *"[L]aissez-faire* (in its full true meaning) opens the way to a realization of the noble dreams of socialism." (George 1912, p. 13-14, *italics* in original)

How trade can both (1) fill in the gaps left by communal reciprocity and (2) make us more understanding of each other's needs without cannibalizing empathic relationships is discussed in "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

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825 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

826 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

827 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

828 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

829 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

It is noteworthy that not even anarchist communists are against trade altogether, as personal property is allowed. Give-away shops operating on a one-in-one-out-principle are one example of the form of barter encouraged.

2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?

In short:

- ***GDP has been strongly (and rightfully) criticized as a bad measure of welfare, and attempts to develop alternative measurement scales are on-going.***
- ***Utilitarianism aims at maximizing happiness. "Happiness", however, can be defined in different ways, and especially the objective of "maximizing satisfaction" can rightfully be questioned, as people's expectations and therefore satisfaction tends to adjust automatically after changes in conditions.***
- ***But as value is subjective, is it even a sensible objective to try to measure "welfare" or "happiness" accurately – and aim at maximizing such metrics? Measurements and incentives based on measurements easily corrupt the original objectives.***

> "But I now thought that this end [one's happiness] was only to be attained by not making it the direct end. Those only are happy (I thought) who have their minds fixed on some object other than their own happiness … Aiming thus at something else, they find happiness along the way… Ask yourself whether you are happy, and you cease to be so." – John Stuart Mill (1909, p. 94)

> "How do you measure quantitatively things like respect or opportunities or liberty? So there's a lot more to life than things we can measure. And there's an awful lot we can measure that doesn't come within GDP…" – Dimitri Zenghelis[830]

830 19:19->, "Sitra seminar: Sustain[illegible] helis"

> "So for democracy with diversity in it, I think there's no alternative to, basically, consequentialist legislation. Bentham was right, and I'm very grateful to him for putting English law on the base of consequentialism. The problem is that the people who do that – the people who are attracted to that way of thinking – tend to be on the spectrum towards Asperger. They don't understand human nature, and they engineer these worlds that couldn't possibly work. So if you are a real utilitarian, you would want people who understand all this sacredness stuff, all these moral foundations. Basically, you'd want Émile Durkheim to do your legislating for you. Or at least Durkheim and a bunch of other people who get it. That's why I call it 'Durkheimian utiltarianism' – I think that's the best approach to public policy."
> – Jonathan Haidt[831]

Utilitarianism aims at the maximization of total "happiness". It is common to divide utilitarians into *act utilitarians* and *rule utilitarians*. The former judge each act individually according to its direct effects, while the latter attempt to create rules of conduct the obeying of which provides maximal happiness for the society in the long run. Act utilitarians criticize rule utilitarians for encouraging non-optimal choices and rule utilitarians criticize act utilitarians for encouraging opportunism, which might lead to lower trust between people and hence worse long-term outcomes and opportunities.

Jeremy Bentham, a pioneering act utilitarian, developed the "felicific calculus" for classifying the different kinds of happiness-enhancing effects of choices and actions into different "vectors":

1. Intensity: How strong is the pleasure?
2. Duration: How long will the pleasure last?
3. Certainty or uncertainty: How likely or unlikely is it that the pleasure will occur?
4. Propinquity or remoteness: How soon will the pleasure occur?
5. Fecundity: The probability that the action will be followed by sensations of the same kind.
6. Purity: The probability that it will not be followed by sensations of the opposite kind.
7. Extent: How many people will be affected?

"Incentive utilitarianism", a third variation proposed (and previously advocated) by the author, does not give absolute, objective value to obedience of rules, but emphasizes that vectors 5 and 6 include also how choices are likely to affect choices others will make in the future. For example, breaking a rule or going back on a promise is likely to deteriorate trust between people, which might make them less willing to keep their promises or follow rules in the future, which erodes trust and thereby hampers cooperation possibilities and total value creation potential. In judging each situation – and especially breaking rules for e.g. the greater good – it is crucial to consider how the act encourages others to behave. In this view, a major function of societal governance could be the creation of credible *incentive systems* that encourage creating value for others.

Regardless of the above-mentioned subcategories, the "happiness maxim" leaves a lot of room for defining "happiness". Bentham was a *hedonist*: He defined happiness purely as *pleasure* and the *absence of pain*. John Stuart Mill expanded the concept of pleasure making a distinction into "lower pleasures" – good taste, physical pleasure – and "higher pleasures" such as auditive harmony, visual aesthetics and inspiring literature (a distinction that someone might consider "elitist"). One can see a relationship between Mill's division and the hierarchy of needs in Abraham Maslow's (1943) later theory of motivation

Mill was among the philosophers to note the so-called "hedonic treadmill", which is actually more like a "hedonic thermostat": the fact that people – their expectations and "happiness" – tend to adjust to any level of physical pleasure or material well-being. For more recent scientific research on this phenomenon, see Dan Gilbert's TED Talk "The Surprising Science of Happiness".[832] This is related to the "pleasure paradox": that "happiness" is easier to achieve when focusing on or pursuing something else – that pursuing happiness directly or even asking oneself whether one is happy can make one unhappy.

In many contemporary welfare metrics, *"happiness"* is often equated with *"satisfaction"* – with "life satisfaction" as one common metric. A much wondered "mystery" is that despite constantly rising living standards and productivity that have allowed significant reductions in physical pain experienced and made sources of both

831 50:04->, Haidt, Jonathan, "The Rationalist Delusion in Moral Psychology", lecture, viewed 20.2.2014, http://www.youtube.com/watch?v=kI1wQswRVaU

832 Gilbert, Dan, 2004, "The Surprising Science of Happiness", TED Talk, viewed 15.1.2013, http://www.ted.com/talks/dan_gilbert_asks_why_are_we_happy.html

"higher" and "lower" pleasure more readily available to many, life satisfaction has not increased significantly. Nor is there a significant difference in life satisfaction between wealthy and poor nations – and if we take suicide rates as some kind of measure of how much people value themselves and their lives, many rich countries (the U.S. and Japan as some examples) fall far behind most nations that we consider "poor". This is referred to as the *Easterlin paradox* and it is often used by critics of using GDP (Gross Domestic Product[833]) as a measure of "welfare" and by those in favor of "happiness politics": making happiness metrics the guiding scores for governments to try to improve.

Other researchers (e.g. economists Betsey Stevenson and Justin Wolfers of the University of Pennsylvania[834] as well as Ruut Veenhoven and Michael Hagerty (2003)) show contrary evidence: that wealth – both relative and absolute wealth on both individual and national level – does show a logarithmic (marginally diminishing, but with no upper-limit) correlation with life satisfaction.

One resolution to this dispute could be found from Daniel Kahneman's and Angus Deaton's study, which showed that self-reported *life satisfaction* did increase with the standard of living, but *"emotional well-being"* – frequency of positive emotions in everyday life – did not. (Kahneman & Deaton 2010) (Remind yourself of a plastic smile on e.g. the face of Bree Van de Kamp in the series Desperate Housewives). The author of this book would argue that neither of these measures – self-reported life satisfaction nor emotional well-being – describes how worthwhile or valuable people's lives really are.[835]

The research cited above makes a clear case against any claims that maximizing GDP would be a sensible strategic objective for any society – even if we ignored the often stated fact that GDP is also increased by costs caused by wars, natural disasters, increased medical expenses and needs to clean up after environmental catastrophes. (Anderson 1991) GDP is essentially composed of *costs*, and maximizing costs makes little sense as a policy objective.[836] However, some libertarians then point out that life satisfaction doesn't significantly correlate with other measures either. After people's living standards have surpassed the subsistence level, for example economic equality in itself does not increase total happiness either. Professor Ruut Veenhoven was one to present evidence that social security payments do not seem to add to well-being nor equality of well-being – as no non-self-earned income (also e.g. winning the lottery) does. (Norberg 2005; Veenhoven 2000)

With these discoveries, libertrians argue against any "happiness politics" or a "welfare state" ambitions. They consider such pursuits futile due to the deteriorating – and subjective – nature of "happiness". Again, they're confusing happiness with satisfaction, but I'll have to agree with the idea that attempting to find one objective, quantifiable measurement for happiness that could be used to assess the successfulness of a "welfare state" doesn't make much sense either.

Also more complex aggregate units for societal and economic development taking into account welfare factors and environmental sustainability issues have been developed. These include the Genuine Progress Indicator (GPI), ISEW (Index for Sustainable Economic Welfare), OECD's Better Life Index[837] and NEF's Happy Planet Index (Marks 2011). The weightings in such indices are always a matter of normative preference. Progress in such scores might serve as a source of national pride and brand development tools for countries. And they might possibly help politicians gain some positive reputation with other things than just economic figures.

The trouble is that – in addition to the challenge of finding a trustworthy measurement – such control based on quantitative metrics tends to be subject to Goodhart's law:

> "When a measure becomes a target, it ceases to be a good measure." (Strathern 1997)

Campbell's law is a variation of this regarding social decision making:

> "The more any quantitative social indicator is used for social decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor."

It is more commonly used to criticize high-stakes tests in education, which make teachers and students focus on succeeding in the tests instead of maximizing the students' long-run competence development. It is unlikely that citizens would start focusing on manipulating their own happiness metrics, but if politicians were held accountable based on some standardized metric, they could focus on maximizing these scores (as is the

833 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".
834 Akst, Daniel, 2008, "A talk with Betsey Stevenson and Justin Wolfers", The Boston Globe, cited 28.1.2013, http://www.boston.com/bostonglobe/ideas/articles/2008/11/23/a_talk_with_betsey_stevenson_and_justin_wolfers/?page=full
835 See: "6.1.2 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
836 See also: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate" and "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".
837 Better Life Index webpages, cited 27.2.2013, http://www.oecdbetterlifeindex.org/

intention with developing such scores). If the metric for example emphasized people's "life satisfaction", this could encourage politicians to lower people's *expectations* by creating external threats (like scaring people with potential terrorism) or further escalate the current populist agendas of giving different interest groups constantly new benefits and privileges over each other (maintaining an illusion that they are gaining when in fact they're all just stealing from each other[838]).

In regard to the strife for a happiness metric, we should ask the same question as in regard to our current education systems based on grading – an external motivator. Why such a narcissistic need to put things on one axis – and not only that, but why attribute some kind of fundamental, generalizable "value" to that axis? Why do we need to prove that some (in this case, countries) are somehow objectively "better" than others? The education system question needs at least one book of its own, but some basic assumptions are questioned in "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability". The emotive nature of "good" and "bad" are discussed in more detail in this book's sister book, "The Guilt Economy".

838 See: "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)".

Sidenote Box 214A: The Neoclassical Growth Model and Utility

Neoclassical economics is often criticized for its simplistic view of the consumer as a fully rational "homo economicus". In the neoclassical growth model, companies are simplified to be rational agents making choices over how much to produce and with what combination of capital and labor aiming to maximize the profits they make for their shareholders. Consumers are assumed to be rational agents aiming to maximize their "utility" (experienced value or benefits), which is composed of free time and consumption of goods and services – both with diminishing marginal utility. Research has shown the reality of human decision making to be very unlike this model. Daniel Kahneman received the Nobel Prize in economics for his research on how consumers actually behave in purchase decision situations, showing a number of cognitive biases affecting both perception and judgment.[839]

Making more elaborate and varying utility functions for consumers has significant potential for fixing some of the deficits of the model. For example, it should be noted that the real economy includes agents that act a bit like companies without paying dividends – meaning individuals who gather wealth as a Game in itself[840] – and that being in *possession* of money has utility to most participants (granting economic security and freedom as well as a sense of responsibility and achievement[841]). Also, having meaningful work with a sense of purpose surely has utility in itself – in addition to the income it provides. Therefore, earning half of one's income from capital and half from part-time work might produce more total utility than getting the same amount as pure capital income – whereas working overtime for the same work might have less utility, depending on how much one likes the work. The cost (negative utility) of work is not only dependent on the opportunity cost of the lost leisure.

But even if we make such "utility function corrections", we are stuck with the question of what we mean by "value"/"utility": Do we mean (1) what makes people's lives better/happier/more worthwhile, or (2) what they (seem to) strive for in making their decisions? Implicitly we are still assuming that people always strive for what's good for them and that they are made happy by the *state* of things, including what they *have* – which

839 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

840 See: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

841 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?" and "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

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runs against the contemporary understanding of happiness.[842] It is dangerous to confuse behavioral models based on "utility maximization" with a normative utilitarian stance for e.g. designing an economic system.

But what modern economics really needs to readopt from the neoclassical growth model is the value of leisure (free time) and the fact that its marginal value (meaning both what people would prefer and what is good for them) might exceed that of additional purchasing power.

However, the bigger deficit with the model is that it simplifies all companies into one company and all households into one household, and therefore it doesn't even include the *possibility of unemployment* of individuals or the fear thereof, which are primary drivers of cyclical chain reactions. Therefore, it also doesn't allow simulations for examining e.g. the mechanics of structural unemployment or ways to increase the correlation of individuals' earning opportunities with their willingness to spend and invest.[843]

842 See: "6.1.2 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
843 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest", "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance

In short:

- *John Rawls suggested that a just society should be planned without the planner knowing his own position or role in the society – behind a "veil of ignorance". This premise alone can lead to very different prescriptions for a society or economic depending on how one views human capabilities and preferences, and the constituents of a worthwhile life and the versatility of human preferences.*
- *However, from this principle, Rawls also concludes "the difference principle" – that the justice of a social system is determined by how well off those worst off end up – and that "an equality of opportunity" requires that those born with worse "native assets" (genetic abilities and attributes) need to be compensated for their handicaps.*
- *There are a few very problematic (overly rationalist) assumptions behind these conclusions: (1) that "native assets" can be put on one axis and that these assets deterministically affect how people end up performing and what they end up achieving; (2) that outcomes are what determine the justice (or goodness) of a social system; and (3) that outcomes have the same value for all participants and that these outcomes can be put on one axis.*

According to John Rawls' "justice as fairness" theory presented in his book "A Theory of Justice" published in 1971, a just society can only be designed from the "original position" of being under a "veil of ignorance". This means that the designer of the society does not know "...his place in society, his class position or social status; nor does he know his fortune in the distribution of natural assets and abilities, his intelligence and strength, and the like". (Rawls 1971, p. 118) Such a veil would prevent the designer from giving any special benefits to any "class" or interest group on the expense of another.

The idea of "a veil of ignorance" itself is a fairly simple one, related to what many of us might have been taught as children: Whoever shares the (dessert or other) portions does not get to choose which portion he gets. But for broader-scale economic systems, this principle alone

leaves a lot of room for interpretation for the designer. Rawls further concludes from this:

- "the principle of fair equality of opportunity", and
- "the difference principle": That the decisive criteria of fairness is how well off those worst off end up."[844]

Here, "fair equality of opportunity" does not only mean the absence of any formal obstacles to competing for certain careers. For Rawls, any "native assets" a person might have gained in the "natural lottery" – such as genetic attributes – are as morally arbitrary as any "social contingencies" (e.g. the wealth of one's parents).[845]

> "Thus the principle holds that in order to treat all persons equally, to provide genuine equality of opportunity, society must give more attention to those with fewer native assets and to those born into the less favorable social positions." (Rawls 1971, p. 86)

Understandably, Rawls' theory is often used to justify more "socialist democrat" societal perspectives that involve ideas of "redistribution".[846] Many Post-Keynesian and New Keynesian economists openly admit to being "Rawlsians", Paul Krugman as one example.[847]

There are a couple of assumptions behind Rawls' conclusions that should be noted and questioned:

- People's "native assets" (genetic qualities) can be placed on one axis and they have a direct influence on any outcome (i.e. that some are simply more clever and stronger and some are more stupid and weaker, and that the clever and strong ones are destined to achieve more).
- (Expected) outcomes (the distribution of "primary social goods") determine the justice of a social system.
- Outcomes can be rated on one axis without knowing people's values and preferences.

Firstly, it can be debated how much of a deterministic influence any genetic traits have on a person's abilities, where she ends up and what she can achieve. One might argue that people's capabilities – and especially how they "end up" – are less a matter of genetic qualities and more a matter of their individual choices, how their early experiences build their self-esteems and what kinds of skills the society encourages them to develop and what roles to take on.

Although "intelligence" in the sense of a tendency for "better" general cognitive performance in many tasks can be empirically shown to be a valid concept (people's performances in different types of mental tasks are positively correlated with each other)[848] and genes have been shown to have a strong influence on people's abilities,[849] it is arguable that this "intelligence" mainly tells of an *analytical* and *logical* thinking *preference* and *capability*, and that there is no objective justification for why such tendencies and skills should always mean e.g. a competitive advantage in all labor markets. For the past decades, analytical capabilities and logical deduction skills – which our culture has defined as "intelligence" – have been in high demand, but as e.g. programming, engineering and business analyst tasks become more and more "outsourceable" to artificial intelligence, it is very possible that artistic talent and interpersonal skills (incl. sensitivity to others' emotions) will be much more valuable assets in the future. For example Dan Pink hypothesizes that the most sought-after skills in the emerging world will be those of design, story, symphony, empathy, play, and meaning. (Pink 2006) Certain kinds of skills only grant an advantage in a market economy when demand for those skills exceeds supply (relative to other skills).

You might also have seen Ken Robinson's famous TED Talk "How school kills creativity" where he recounts the story of a girl diagnosed with a "learning disorder" for her motoric tendencies. The "punchline" is to the point: "Mrs. Lynne, Gillian isn't sick; she's a dancer. Take her to a dance school."[850]

There is no objective way of putting people strictly on one axis in terms of "mental ability" or "talentedness" in general. Despite the empirical validity of "intelligence", the author of this book argues that the whole concept (together with the grading systems in our education systems) is one of the most dangerous, attitudinally

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844 "[T]he higher expectations of those better situated are just if and only if they work as part of a scheme which improves the expectations of the least advantaged members of society." (Rawls 1971, p. 65)

845 "[The liberal conception] still permits the distribution of wealth and income to be determined by the natural distribution of abilities and talents. Within the limits allowed by the background arrangements, distributive shares are decided by the outcome of the natural lottery; and this outcome is arbitrary from a moral perspective. There is no more reason to permit the distribution of income and wealth to be settled by the distribution of natural assets than by historical and social fortune." (Rawls 1971, p. 63)

846 See: "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)".

847 1:11:35->, 2012, "A Conversation on the Economy with Joe Stiglitz and Paul Krugman", viewed 9.5.2013, http://www.youtube.com/watch?v=xd0Uz_ebzA

848 Hsu, Steven, "Genetics and Intelligence", Google Tech Talks, viewed 2.7.2013, http://www.youtube.com/watch?v=62jZENi1ed8

849 Deary, Ian, 2011, "Genetics and Intelligence - (Intelligence is Highly Heritable and Polygenic)", The University of Edinburgh, viewed 2.7.2013, http://www.youtube.com/watch?v=CqaBvh5XIf8

850 16:35->, Robinson, Ken, 2006, "How School Kills Creativity", TED Talk, viewed 16.5.2014, http://www.ted.com/talks/ken_robinson_says_schools_kill_creativity

charged "one-axis simplifications" in our society. Just like racist prejudice, it is likely to have harmful self-fulfilling-prophecy-effects: making people depreciate their own and others' skills and lose their self-efficacy unnecessarily, instead of discovering and further developing the special combinations of skills they have and keeping their eyes open for new ways to utilize them.[851] People tend to take on the roles they are given, and giving a person the role of a "less gifted" person (devaluing their "native assets") is the most counterproductive thing one can do.

And the concept of intelligence can also be detrimental to the self-esteem, motivation, performance and entrepreneurship of the ones classified "more clever". Praising students for their "cleverness" instead of "good effort" has been shown to make them perform worse in subsequent feats, to avoid challenges, to be less motivated to practice and to be hit much harder by setbacks. (Mueller & Dweck 1998)

> "The fixed and growth mind-sets create two different psychological worlds. In the fixed mind-set, students care first and foremost about how they'll be judged: smart or not smart. Repeatedly, students with this mind-set reject opportunities to learn if they might make mistakes (Hong, Chiu, Dweck, Lin, & Wan, 1999; Mueller & Dweck, 1998). When they do make mistakes or reveal deficiencies, rather than correct them, they try to hide them (Nussbaum & Dweck, 2007).
>
> They are also afraid of effort because effort makes them feel dumb. They believe that if you have the ability, you shouldn't need effort (Blackwell, Trzesniewski, & Dweck, 2007), that ability should bring success all by itself. This is one of the worst beliefs that students can hold." ...
>
> "Finally, students in the fixed mind-set don't recover well from setbacks. When they hit a setback in school, they decrease their efforts and consider cheating (Blackwell et al., 2007). The idea of fixed intelligence does not offer them viable ways to improve." (Dweck 2007)

In reality, "top talents" are always more "made" than "born".[852] Moreover, people born with some kind of clear handicap can be driven by this very challenge to even greater achievements than they would've accomplished without it.[853] "High native assets" can also be a handicap – just like "positive social contingencies" (e.g. "being born with a silver spoon up one's a... in one's mouth").

These viewpoints suggest that it might not be wise (nor "just") to excessively try to compensate "differences" in native assets with unearned benefits or advantages. It is safer to start furthering "equality of opportunity" by first removing formal and financial obstacles to mobility between different "classes" and positions – the positive freedom to choose one's role in society.[854]

Here, we have to note that this does not necessarily mean merely "careers open to talents". (Rawls 1971, p. 57) It is important to distinguish between a society, "where *anyone* can succeed" and one "where *everyone* can succeed". In the first situation, everyone has the opportunity – "a fair go", as they say in Australia – to compete over any position, but these positions are limited, meaning that there eventually end up being "winners" and "losers." It is possible that some people end up in positions (e.g. doing a kind of work) they don't like with relatively miserable compensation despite having the required abilities for other positions as well. And this is not the most efficient allocation of resources, towards which a well-functioning supply and demand market should theoretically be tending. Nor does it result in a fair distribution of income. A market economy could very well be a system where *everyone wins* – in her own way, i.e. in terms of her skills and preferences. This debate is further continued in "3.2.2 Unfair Income Differences and Limits to Social Mobility".[855]

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851 "Over and over again if you go five days into it, there's a group of kids that have raced ahead and there's a group of kids that are a little bit slower. And in a traditional model – if you just snap shot assessed: You'd say 'these are the gifted kids, these are the slow kids. Maybe they should be tracked a bit differently. Maybe we should put them in a different classes. But when you let every student work at their own pace – we see it over and over and over again – you see students who took a little bit extra time on one concept or the other, well once they get through that concept they just race ahead. So the same kids that you thought were slow six weeks ago, you, now, would think are gifted." ... "It makes you really wonder kind of how much all the labels – maybe that all of use have benefitted from – were really just due to a coincidence of time."
– 13:49->, Khan, Salman, 2011, "Let's use video to reinvent education", TED Talk, viewed 15.7.2013, http://www.ted.com/talks/salman_khan_let_s_use_video_to_reinvent_education

852 See: "Sidenote Box 414B: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent".

853 "...and basically go further than I ever could've dreamed – all because of my wheelchair."
– 1:09->, "Aaron 'Wheelz' Fotheringham – The Story", viewed 26.5.2014, https://www.youtube.com/watch?v=U2D6Iy7m7qI
Jukka Jokiniemi became a successful lighting equipment entrepreneur despite his eyesight constantly weakening towards the level of blindness. He is also the indispensable captain of his sailing team because he feels the changes in the direction and pressure of the wind more sensitively than others – because he is blind. As he says: "No physical disability is as difficult as an attitudinal disability." (Puustinen & Mäkeläinen 2013, 88-99)
A number of successful people state their dyslexia as one driver of their desire to succeed (Puustinen & Mäkeläinen 2013, p. 103) or as the factor that had made them more aware of their other abilities.
"I often say that in every crisis there is an opportunity, and in this case the handicap of dyslexia has also been a blessing. Because I couldn't learn out of books and I couldn't take notes, I just had to remember everything."
– 4:06->, Maloney, Mike, "Death Of The Dollar - Hidden Secrets Of Money Ep 3 - Mike Maloney", viewed 26.5.2014, https://www.youtube.com/watch?v=y-IemeM-Ado

854 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

855 Of course, someone might disagree with how "morally arbitrary"

Then to the second issue. Another trouble with Rawls' conclusions and his "difference principle" is that, like utilitarians, he focuses on *states* and *outcomes* – or *expectations* thereof (as in *probabilities*, not in the sense of optimism/pessimism). (Rawls 1971, p. 65-68) As we suggested in the beginning of this section (2.1), it might be useful to make a distinction between *designing the game* and *playing the game*. Rawls does not make this distinction. He assumes that the designer in "the original position" (behind the veil of ignorance) is a "rational" agent, already playing the game: securing a maximal amount of "primary social goods" for himself.

> "The assumption of mutually disinterested rationality, then, comes to this: the persons in the original position try to acknowledge principles which advance their system of ends as far as possible. They do this by attempting to win for themselves the highest index of primary social goods, since this enables them to promote their conception of the good most effectively whatever it turns out to be." (Rawls 1971, p. 125)

The results of the latest work in positive psychology suggest that absolute positions or possessions are not very relevant for people's "happiness" or welfare. What matters more is their sense of progress and control: how much they feel they *can affect* their own position and *improve* things in general.[856] If we want a society where people's lives feel worthwhile and they can have strong self-esteems, policies focusing purely on *outcomes* are likely to be very counterproductive. Giving people things for free and filling their needs instead of letting them strive for things themselves might be very bad for them.

And even if there was no "hedonic treadmill"[857] and outcomes were the only thing that mattered, it is dangerous to assume that any benefits people might expect could be put on one axis. As explained in "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy", and as Rawls himself partly admits,[858] people have very different preferences, which no single person can fully understand. For different preferences, goals and values different "primary social goods"[859] are of differing usefulness and differing inherent desirability. Some people might e.g. value fame, respect or appreciation (and other kinds of "social capital") far more than anything that can be acquired or promoted directly with monetary income. And if your prime ambition in life is to become a great singer or breakdancer or to find enlightenment through meditation, additional "social goods" might have little marginal value to you.

This is why the golden rule "do unto others what you would have them do unto you"[860] is not always a good rule in its literary interpretation. Even if you imagined yourself in every possible role in the society, what might seem like a just policy in your view might not be a just

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being born into a specific family really is. If one considers a family to be the unit to be incentivized, then it might be considered "fair" to "penalize" children for their parents' sins. One's moral stance regarding this question has implications especially for the debate over government-subsidized education (see: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability"). Another related debate is that over the inheritance tax (a.k.a. "estate tax", a.k.a. "death tax"). If we want everyone to start "from the same line", it might seem sensible to allow people to leave as little behind as possible to their children. The biggest challenge with the inheritance tax, however, is that leaving an inheritance is just one way for parents to pass wealth to their children or support them financially, and the inheritance tax can therefore almost always be circumvented in one way or another (by e.g. transferring wealth more gradually or through trusts and other financial structures, see reference at end of note) and therefore it tends to result in "taxes" being paid to support a massive legal and financial advisory industry that helps people avoid paying the actual inheritance taxes to the government – which is not very productive in terms of the whole economy (see: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive"). Inheritance taxes are not discussed in further detail in this book. (For more on a better taxation model, see: "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model")

– "How the Waltons Maintain a $100B Fortune", Bloomberg Businessweek, 12th Sep 2013, cited 16.9.2013, http://www.businessweek.com/videos/2013-09-12/how-the-waltons-maintain-a-100b-fortune

856 See: "2.1.6 Conclusions – How about a Game Design Approach?" and "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

857 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

858 "How, then, can they decide which conceptions of justice are most to their advantage? Or must we suppose that they are reduced to mere guessing? To meet this difficulty, I postulate that they accept the account of the good touched upon in the preceding chapter: they assume that they normally prefer more primary social goods rather than less. Of course, it may turn out, once the veil of ignorance is removed, that some of them for religious or other reasons may not, in fact, want more of these goods. But from the standpoint of the original position, it is rational for the parties to suppose that they do want a larger share, since in any case they are not compelled to accept more if they do not wish to. Thus even though the parties are deprived of information about their particular ends, they have enough knowledge to rank the alternatives. They know that in general they must try to protect their liberties, widen their opportunities, and enlarge their means for promoting their aims whatever these are. Guided by the theory of the good and the general facts of moral psychology, their deliberations are no longer guesswork. They can make a rational decision in the ordinary sense." ... "The difference principle is a very special criterion: it applies primarily to the basic structure of society via representative individuals whose expectations are to be estimated by an index of primary goods." (Rawls 1971, p. 123 & 72)

859 "As a first step, suppose that the basic structure of society distributes certain primary goods, that is, things that every rational man is presumed to want. These goods normally have a use whatever a person's rational plan of life. For simplicity, assume that the chief primary goods at the disposition of society are rights, liberties, and opportunities, and income and wealth. (Later on in Part Three the primary good of self-respect has a central place.) These are the social primary goods. Other primary goods such as health and vigor, intelligence and imagination, are natural goods; although their possession is influenced by the basic structure, they are not so directly under its control." (Rawls 1971, p. 54)
"Primary goods are now characterized as what persons need in their status as free and equal citizens, and as normal and fully cooperating members of society over a complete life. Interpersonal comparisons for purposes of political justice are to be made in terms of citizens' index of primary goods and these goods are seen as answering to their needs as citizens as opposed to their preferences and desires." (Rawls 1971, p. xiii)

860 Matthew 12:7, The Bible, New International Version.

policy in another person's opinion. You might e.g. really love teaching and thus you would consider it just to pay teachers a lower salary, but you cannot know if enough people share your passion for that occupation for supply and demand to be matched at that price.[861]

This also makes it non-trivial who gets to be the designer behind the veil of ignorance. "Democracy" is a set of governance forms with a fairly strong brand. Governance issues are not the main focus of this book, but the problems with democracy are discussed in "6.3.2 Appendix 3.2: The Challenges with Democracy" and some theoretical alternatives in "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".

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861 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2.1.6 Conclusions – How about a Game Design Approach?

In short:

- *A game design perspective attempts to make the society and its economic system function like a fair, balanced, sustainable and motivating game – or a flexible platform for such "games".*
- *This could be seen to combine some aspects of consequentialist libertarian, utilitarian and Rawlsian premises (though questioning many of their assumptions and conclusions).*
- *Some implication are that getting too many things for free is not good for people (fun, self-worth-enhancing etc.), nor is the future being too certain; that failure and "losing" every now and then can be motivating, too; and that everyone needs to be allowed to participate meaningfully in the society according to her skills and have a sense of progress and control regardless of her role or "stage" (of e.g. skill development).*

> "Incentives are the cornerstone of modern life.
> And understanding them – or, often, ferreting them out – is the key to solving just about any riddle, from violent crime to sports cheating to online dating." – Steven D. Levitt & Stephen J. Dubner, Freakonomics (2005, p. 12, italics in original)

> "Life is not a matter of holding good cards, but of playing a poor hand well." – Robert Louis Stevenson

> "The economic order here discussed is a natural order only in the sense that it is adapted to the nature of man. It is not an order which arises spontaneously as a natural product. Such an order does not, indeed, exist, for the order which we impose upon ourselves is always an act, an act consciously willed." – Silvio Gesell, The Natural Economic Order (1916, Preface)

> "[T]here's no unemployment in World of Warcraft" ... "We have to make the real world work more like a game." – Jane McGonigal, Gaming Can Make a Better World[862]

> "[T]he stand point of the fool [the joker] is that all social institutions are games. He sees the whole world as game playing. And that's why when people take their games seriously and put on stern and pious expressions, the fool gets the giggles – because he knows it's all a game. When I say he sees everything as a game, this does not mean 'mere game'." ... "The idea of 'game' basically is this that the nature of the world is musical. That is to say, it is doing all these forms of trees and stars and people and all their complexities just to do them." ... "And it's all a game, ... in the sense that it has no other object than doing what it's doing. That's the fun of it." – Alan Watts[863]

OK: There's little point in trying to measure happiness or well-being numerically,[864] but can we make any assumptions or generalizations of what kinds of things make people "happy" or their lives worthwhile? If we can't, we really cannot use the "value" or "happiness" maxims as a basis for making any normative objectives for a non-voluntary-participation government. I'd say we can. A more comprehensive framework - based on a combination of existing research and different philosophical perspectives – of what makes people's lives "richer/fulfilling/worthwhile/valuable" is presented in "6.1.1 Appendix 1.1: Happiness Is Appreciating - A Framework of Happiness".

A third of this framework is based on the fact that we, people, love "games" – to the extent that we easily become obsessed with them. But while a drug addiction

862 5:04-> & 12:11->, McGonigal, Jane, 2010, "Gaming Can Make a Better World", TED Talk, viewed 26.4.2013, http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html

863 9:06-> & 14:37->, Watts, Alan, "The Fool, The Joker And The Monk", lecture, viewed 3.2.2014, https://www.youtube.com/watch?v=xtHPUThgdyI

864 See: "2.1.4 Utilitarianism and Happiness Politics/Economics - Does Measuring Happiness Make Sense?".

often destroys a life (and so can some kinds of game addictions[865]), games – especially in the broader sense of any ends, goals or scores we pursue in life (Games, as they are called in appendix 1.1) – can become the reason for living for many people and give their lives *direction* and *meaning*. We actually need games – objectives and goals – not just to live a worthwhile life but even just to stay alive![866] In his TEDx Talk, "The game layer on top of the world", Seth Priebatch calls the previous decade "the decade of social" and proclaims that this decade, of 2010, will be

> "the decade where the game framework is built – where the motivations that we use to actually influence behaviour and the framework in which that is constructed is decided upon."[867]

Could it also be so in economic engineering and societal design?

Good games are designed to be fair and motivating. In her TED Talk "Gaming Can Make a Better World", Jane McGonigal points out how enthusiastic gamers become "urgently optimistic", "blissfully productive" and masters at weaving a "social fabric".[868] The rules governing our cooperation in the society and our strife for whatever each of us considers worth striving for in life essentially constitute games![869] But yet few of us are as entrepreneurial in real life as many of us become with games. What if we took *a game design perspective* into our economic system?

It would not make World of Warcraft a more motivating game if everyone could start off with a level-50 character if they wanted to. Understandably, no one is campaigning outside Blizzard (the game development company) head quarters or in blog posts to make it so. Some impatient (and status-hungry) people of course buy themselves (with real world money) characters developed by others, but – generally – a motivating game is not one where people get things for free, but where everyone has the chance to strive for things.

And a fair game is not one where everything is distributed equally, but where everyone always has chances to pursue goals of different difficulty and the freedom to choose what role they want to take. Eliminating all obstacles to moving between different roles in the game is the easiest way to ensure it is balanced.[870] You don't get a balanced StarCraft 3 by letting a devoted Terran player and a Protoss fanatic debate over what units each should get and lobby for more hitpoints or special abilities for their different units – making the design process part of the game itself.[871] They couldn't possible do so without speculating over which units they'd use against which ones and how to get a competitive edge over the other – or at least prevent the other one from doing so. Instead, you need to playtest the game and adjust units and their abilities and parameters until each role is equally popular or successful – or alternatively, after designing the basic unit types, auction an equal number of roles for tournaments for hit point handicaps. This "market-based solution" would be easier to implement, and dynamically more adaptable, making it better suitable to games where new types of units and play maps (analogous to technologies) are constantly created by the players.

However, if some parties are given an unfair advantage in a game to begin with or some are able to gain a position that makes others' game experience less motivating, people are likely to attempt to cheat in some way or abandon the game. If, for example, in World of Warcraft, it would've been possible for early adopters to buy up a big part of the realm and prevent others from doing quests on those parts (or charge them rip-off rents for doing so), it would be very demotivating and game-experience-hampering for others. In massive multiplayer shooting games, where conquest of areas is possible, there is usually some kind of balancing mechanism to help the other side get back on their feet or, alternatively, game rounds eventually end and the game restarts.

Similarly in real life, untaxed land ownership allows people to limit others' freedom notably.[872] People are able to prevent others from paying back their debts by hoarding up credit – preventing them from "completing their quests" – and the balancing mechanism to prevent this (negative interest rates if necessary) doesn't currently work.[873] No wonder people in the current system are prone to break the rules[874] – and to look for more motivating games in the virtual world when the real one does not seem fair, balanced and motivating.[875]

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865 See: "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life".
866 See: "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".
867 Priebatch, Seth, 2010, "The game layer on top of the world", TEDx Talk, viewed 21.4.2013, http://www.ted.com/talks/seth_priebatsch_the_game_layer_on_top_of_the_world.html
868 McGonigal, Jane, 2010, "Gaming Can Make a Better World", TED Talk, viewed 26.4.2013, http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html
869 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".
870 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
871 The difference between individuals' personal goals and their normative views on the society was presented in the introduction of "2.1 Normative Principles – What Do We Want from an Economic System?".
872 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
873 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
874 See: "3.2.6 Effects on Crime".
875 See: "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life".

A game design perspective of course does not in itself result in the final conclusion that we necessarily need a market economy, but it does suggest that market mechanisms are an easy way to make things work fairly and efficiently[876] – and make them more fun!

Good games include both cooperation and competition. As Jonathan Haidt says about mankind, "we've gotten this far because we cooperate to compete."[877] Good games allow us to do that without killing each other (as competing tribes or civilizations tend to do). A market economy allows us to do that in the real world, productively, through competing, restructuring organizational forms without any human beings needing to die.[878]

Also, many popular games include trade dynamics. Games like Bohnanza (the bean trading card game) are almost purely based on trying to make good bargains. We just love negotiating for good deals and get tremendous kicks out of making them! This cannot only be because we've been brought up in a market economy. Trading is fun and motivating – as long as it remains fair (and btw there is hardly anything fair about so-called "Fair Trade", as is explained in "The Guilt Economy").

Even games that don't allow resources to be "traded" directly pose the player with trade-off situations. E.g. in a game of chess, you might know that a move will result in you losing a knight and a pawn for your opponent's castle – and depending on the situation and the resulting new positions of the pieces, you have to calculate whether that "trade" is likely to be beneficial for you. In many good games there are some limiting resources the use of which the players try to optimize – just like in economic decisions. In many cases, the uses available for the resources can be considered "investments".[879] In planned economies[880] or ones based purely on empathic ties,[881] individuals have far less freedom to make such optimization decision that would have visible impacts on their own progress or situation – or that of their loved ones (less of a sense of control and progress).

For example money[882] is just one kind of scoring system within the game – and by no means meant to be the ultimate objective of anyone's game or a measure of rank, but rather a limiting "resource" the use of which an individual can optimize (although thinking of money as a commodity-like, limit*ed* or producible resource on the level of the whole economy is very misleading[883]).

Regardless of how we exactly define "happiness", people tend to like different kinds of games and few values are generalizable to the whole population. The game design perspective suggests that there might be many, very different kinds of working and fair economic systems – just like there are many different fun and balanced games. What matters is the compatibility of the rules – with each other as well as with the players' personality traits and the culture.[884]

Yet we might suggest that the majority (possibly excluding the dog-eat-dog-natural-selection-oriented extreme libertarians and some Marxist kinds of views demonizing human diversity and wanting to forge people into one standardized mold) would agree that the frequency of the following kinds of situations do *not* contribute towards making a "market game" fair and motivating:

- Starvation despite capability to contribute to the society: Someone not being given enough earning opportunities to be able fulfill her spending and investing needs (e.g. due to unemployment).

- Unintended contract breaches, such as credit defaults: Someone not being able pay back what they have promised to, keep up with interest payments or meet other obligations they have agreed to (especially due to no fault of one's own, as in the above case of simply not being given earning opportunities).

- Severe economic insecurity: e.g. where it is hard to predict even approximately what one's (cumulative) income will be in the future out of no fault of one's own.

- Waste (i.e. excess production or otherwise wasted resources) and significant deficits of needed goods, i.e. supply and demand mismatches of products or services.

- Decreases in the long run survival and prospering possibilities of mankind as a whole (e.g. due to

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876 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

877 26:00->, Haidt, Jonathan, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

878 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

879 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production."

880 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".

881 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

882 See: "1.2 Credit, Money and Banking".

883 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

884 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

depletion or destruction of vital resources and their renewing capacity).

- Unnecessary destruction of irreplaceable assets – also other than surely vital resources (e.g. loss of biodiversity, erosion of fertile soil).

- That individuals can pass costs they create onto others without their consent – including the offspring of the current population (e.g. externality costs, unsustainable waste management or neglectful impoverishment of arable land).

Secondly, most of us wouldn't mind maximizing the following:

- **Productivity / production efficiency** – minimizing the amount of value lost (effort and other resources spent) in producing other valuable things, e.g. goods, services and real assets. This is practically the same as avoiding waste.

- **Positive economic freedom** – opportunities and choices for all agents over both what kinds of value to consume and how to participate in the production of value.

But of course, these maxims are easily questionable as well. The question of whether positive freedom – availability of choice – really makes people happier was discussed in "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice". Also, from a game design perspective, it might make sense to limit choices, as clearer, externally given objectives and limits often make a game more worthwhile than a completely open field with no direction or anything to optimize. However, as all of us don't like the same kinds of games, setting these limits and guidelines is not optimally the role of a central government. The voluntary societies people form and freely evolving institutions[885] set such limits and guidelines just well enough.

In a game design perspective to our society, rather than seeing our economic system as one, readily designed game, it makes more sense to consider it a *gaming platform* on which people can play different kinds of games and create their own ones – with few chances to limit others' possibilities – more like Spore, The Sims and Minecraft than like Doom or Angry Birds. World of Warcraft is (once again) a good example of a hybrid between these two extremes, which provides a clear sense of progress, but multiple different characters and roles, with multiple development paths as well as free choice of which quests to tackle and with which team mates to do so and without limiting how fast each player can (or must) progress.

As discussed in "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units", the word "productivity" has achieved a very negative taint – especially in the trade union world.[886] This is partly because productivity is often measured as output (or revenues or profits) *per person*. Thus aiming for "increased productivity" is easily interpreted to mean demanding more and harder work from individuals for the same wage. This assumption is understandable in an economic environment where the unit of labor is considered to be an employee.[887] And this assumption is one we should first and foremost be questioning.

Replacing a human being with e.g. an hour of work in the denominator of "productivity" opens doors for a bit more constructive discussion. From the perspective of an employee you might have the wage received *plus work satisfaction* in the nominator. From the perspective of total productivity for the whole society, you might replace the wage with added value perceived by the end customers and you'd have total value produced in an hour as the measure of the "productivity" of any activity. For a company aiming to maximize profits for shareholders, you would substitute in the sales price of the good or service in question (the value captured by the company) as the nominator and subtract wages. If the companies have to compete over employees, the objective of minimizing wages essentially means making the work more enjoyable and attractive for employees![888]

If your work happens to be the thing you enjoy doing the most in your life,[889] then there is practically no net production cost, in which case maximizing productivity would not mean minimizing your work, but maximizing the resulting benefits to others.[890] But there is a limit on the weekly and lifetime hours you can spend on doing even the things you love to do and usually the marginal value of doing one kind of thing starts declining after a certain point, and marginal opportunity costs of not being able to do other things start emerging.

So by "maximizing productivity", we mean minimizing doing things we don't like to do as well as the use of (other) scarce resources ("costs") and maximizing the benefits (value) from the outcomes to all stakeholders – and this does not necessarily mean minimizing work (activity) or

885 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

886 See: "3.2.3 Unionization and Strikes".

887 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

888 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

889 See: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

890 If the activity does not produce any other value than the direct enjoyment from it, we would no longer call it "work" or "labor" according to the definition chosen in "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

maximizing the amount of monetary value that can be *captured* by the employer[891] from one person's work.

Here, we've tried to be stingy with the given objectives for a society above so as to make them acceptable for an audience as wide as possible. As will be seen, most current political views are attempting to solve most of the above issues (or at least claiming to do so) although suggesting different solutions. Their emphases of different solutions (or treatments) are partly affected by the importance they attribute to each objective and other high-level objectives they've added. But some of their solution suggestions have also become ends in themselves.

After presenting some examples of different solution attempts by different political and economic "convictions", (section 2.2) we'll suggest a new solution alternative: fixing a simple "Root Bug" in the economic operating (section 2.3). Fixing the Bug seems to be a superior way of achieving many of these normative objectives simultaneously without needing to fight for a "compromise". How it would solve – or facilitate solving – many of today's core concerns in our economies – and the whole global economy – is the subject of volume "3 Why We Need to Fix the Root Bug".

Chapter "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability" discusses our current education paradigms from this kind of a game design perspective.

> "The saints are the sinners who keep on trying." – Robert Louis Stevenson

> "For years I've been telling people: 'Stress makes you sick. It increases the risk of everything from the common cold to cardiovascular disease.' Basically, I've turned stress into the enemy. But I've changed my mind about stress. And today I want to change yours." … "People who experienced a lot of stress, but did not view stress as harmful were no more likely to die. In fact, they had the lowest risk of dying of anyone in the study – including people who had relatively little stress. Now, the researchers estimated that, over the 8 years they were tracking deaths, 182,000 Americans died prematurely, not of stress, but from the belief that stress is bad for you." … "And participants who learned to view the stress response as helpful for their performance, well, they were less stressed out, less anxious, more confident – but the most fascinating finding to me was how their physical stress response changed." – Kelly McGonigal, How to Make Stress Your Friend[892]

891 See: "Graph 9: Distribution of value produced by a company."

892 0:55->, 2:11-> & 5:40->, McGonigal, Kelly, 2013, "How to make stress your friend", viewed 8.12.2013, http://www.youtube.com/watch?v=RcGyVTAoXEU

2.2 DIFFERENT ECONOMIC SCHOOLS AND THEIR SOLUTION SUGGESTIONS

"It is possible to come upon the same object from different angles; but more often those who take different routes chance upon different things." – Walton H. Hamilton, The Institutional Approach to Economic Theory (1919)

"It seems curious, that, in several national surveys recently conducted, over two-thirds of the managers who would authorize the introduction of quality and improvement programs consider those programs to be failures." ... "The reason for the failures is primarily the fact that they have not been embedded in systems thinking. They have been anti-systemic applications." ... "If we have a system of improvement that is directed at improving the parts taken separately, you can be absolutely sure that the performance of the whole will not be improved." – Russ Ackoff[893]

"Ecological and Georgist economics tend to define themselves in opposition to neoclassical economics and to ignore each other. It is time they began to learn from each other as well as from other "alternative" versions of economics such as Austrian, Institutional, Post-Keynesian, binary, and others." ... "If we are to use knowledge to solve problems, that goal can only be achieved by transcending the artificial barriers that so often stand between competing theoretical perspectives." – Clifford Cobb, Herman Daly Festschrift, Chapter 13 Ecological and Georgist Economic Principles: A Comparison (2013)

893 1:45->; 2:45-> & 5:27->, "If Russ Ackoff had given a TED Talk...", a presentations in 1994, viewed 16.10.2013, http://www.youtube.com/watch?v=OqEeIG8aPPk

2.2.1 Overview of the Solutions and Emphases of Different Schools

In short:

- ***Many economic schools have been trying to figure out how to prevent unemployment, depressions and other unnecessary credit default situations – and continuously refuse to try understanding each other.***

"What I have done in this book, if I have correctly solved the great problem I have sought to investigate, is, to unite the truth perceived by the school of Smith and Ricardo to the truth perceived by the school of Proudhon and Lasalle; to show that *laissez-faire* (in its full true meaning) opens the way to a realization of the noble dreams of socialism; to identify social law with moral law, and to disprove ideas which in the minds of many cloud grand and elevating perceptions." – Henry George (1912, p. 13-14)

In the chapters in this section, we'll be summarizing some of the solutions of different schools of economics to economic, social and environmental issues, explaining the logic behind these solutions as well as pointing out the problems and values that the schools emphasize and the issues they downplay or deny.

In any economic system where it is possible to gather wealth based on some kind of expectations of future receipts from others, i.e. credit (which all monetary systems are[894]), a major challenge is how to avoid unnecessary credit defaults – i.e. to ensure that people are able to pay what they have promised.

894 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

Looking back at the equation:

> EconomicGrowth = Investing – Saving = Investing + Spending – Earnings

presented in "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing", the issue of ensuring that debtors have the opportunity to repay their debts and earn their living is also strongly linked with avoiding unwanted economic declines, recession and depressions. Solutions to these issues – cyclicity and unemployment[895] – is where the focus will be in most chapters. Other economic, social and environmental issues are discussed in more detail from the perspective of the Root Bug hypothesis in volume 3.

895 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

TABLE 2: AGENDAS, CONCERNS, OMISSIONS AND ACHIEVEMENTS OF DIFFERENT SCHOOLS OF ECONOMICS

Economic school or ideology	Challenges emphasized	Problems/threats/ mechanisms downplayed, ignored or denied	Political/ interest group orientation[896]	Attributes (almost) intrinsic value to	Credits for achievements
Austrian Economics	Government intervening in free choices of individuals and the market (especially in money); "credit expansion"	Natural incentives to hoarding vital, limited resources; self-reinforcing nature of deflation and inflation; neglecting the credit nature of money; purposeful (?) misunderstanding of our current credit money system	Right; "capitalist class"; especially landowners and creditors (not so much entrepreneurs)	Work; austerity (saving); money; negative freedom	Rightful criticism of democracy and involuntary central government in general; questioning many "truths" in neoclassical economics
Traditional "socialist" solutions	Income inequality and economic insecurity	Incentive traps; supply and demand imbalances; the costs of risk and damaging effects of competition	Left; Low skilled working class	Economic equality and security	Recognizing that employees are in a disadvantaged negotiation position in a completely "free" market
Post-Keynesian	Unemployment; insufficient aggregate demand	Hyperinflation risks and other non-linearities; incentive traps to structural adjustment, the government's limited ability to understand its citizen's needs (e.g. assumes people want full-time work)	Left; Low skilled working class	Work; economic security	A good understanding of the basic structure of credit money, clarifying common misunderstandings regarding debt

Continued on page **193** ▶

Most "economic schools" are more rough categorizations than completely coherent "ideologies" and even where the proponents are self-declared, significant internal disputes persist. The viewpoints and solutions presented in this section are by no means exhaustive. They are rather examples of some arguments, "logics" and assumptions employed to support certain policies and brief assessments of their overall credibility as well as the necessity and relevance of such policies in a "root-debugged" market economy. Table 2 is an even more coarse simplification.

▶ **TABLE 2** (CONTINUED)

Economic school or ideology	Challenges emphasized	Problems/threats/ mechanisms downplayed, ignored or denied	Political/ interest group orientation[896]	Attributes (almost) intrinsic value to	Credits for achievements
Participatory economics	Environmental externalities; labor market imbalances	Tragedy of the Anticommons; other inefficiencies and challenges with democracy; the cost of risk; difficulty of predicting people's needs	Left; Low skilled working class and anti-capitalist intellectuals	Democracy; localness; economic security; equality; absence of authority	Extensive listing of market imperfections in a free market
Democratic Money	Deterioration of democracy; the power of banks	The credit nature of money; overreliance on the Quantity Theory and the abilities of a democratic government	Moderate left; Moderate liberal	Democracy; The Quantity Theory of Money	Being a prime example of how desperately people want to make the world work like their languages expect it to
Ecological Economics	Environmental sustainability and biodiversity; "material throughput" and the limitedness of resources	Economic incentives; labor market challenges in general; the nature of our credit money system; the inapplicability of thermodynamics to all things	Green, Left	Life; biodiversity; sustainability	The value of natural capital; the dependence of economic systems on the natural environment; cross-disciplinary initiatives
"Mainstream"	Market (and growth) stability; employment; total economic activity (GDP)	The effects of morality, culture and other emotional issues on human behavior; findings of other fields in general	Moderate right	Economic activity (growth); price stability (low inflation)	Extensive research on how interest rates and public fiscal policies affect trends

896 As mentioned in footnote 10, the "left-right" distinction has many meanings in politics. Here, we do not mean the original conservative-progressive split, but rather the emphasis on the role of government in the economy: "Right" refers to an inclination to want to maximize individual economic freedom and the "left" to an inclination to want more central control and regulation.

2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives

In short:

- *E.g. many Austrian economists maintain that a market that is allowed to determine its own currency "naturally" – one where a commodity emerges in trade as a "medium of exchange"– would be the most efficient and minimize business cycles.*

- *Unfortunately, commodities are bad currencies: Their market value unavoidably becomes highly speculative in nature and the interest rate mechanism ends up working exactly in the opposite direction than would be needed to keep aggregate supply and demand in balance.*

- *Many advocates of commodity money strongly downplay the importance of the predictability of the price level (i.e. the purchasing power of the currency to which debts and savings are tied by default), how deflation expectations can practically freeze real investments (without any real economic reason) and how unexpected price level shifts are effectively massive, unearned wealth transfers.*

- *(See subchapter briefs for the separate cases of constantly competing currencies and of a natural monopoly currency.)*

"In truth, the gold standard is already a barbarous relic." – John Maynard Keynes, Monetary Reform (1924, p. 172)

"What kind of 'standard' will a free money provide? The important thing is that the standard not be imposed by government decree. If left to itself, the market may establish gold as a single money ('gold standard'), silver as a single money ('silver standard'), or, perhaps most likely, both as moneys with freely-fluctuating exchange rates ('parallel standards')." – Murray N. Rothbard (1963, p. 38)

"When I was moved by many arguments and forces in 1925 to return to the Gold Standard I was assured by the highest experts ... that we were anchoring ourselves to reality and stability; and I accepted their advice." ... "But what has happened? We have had no reality, no stability." – Winston Churchill, in 1933 (Steele 2001, p. 13)

"They will search the pages of history in vain to find a single instance where the common people of any land have ever declared themselves in favor of the gold standard. They can find where the holders of fixed investments have declared for a gold standard, but not where the masses have. If they dare to come out in the open field and defend the gold standard as a good thing, we will fight them to the uttermost ... we will answer their demands for a gold standard by saying to them, you shall not press down upon the brow of labor this crown of thorns. You shall not crucify mankind upon a cross of gold." – William Jennings Bryan, speech "Crown of Thorns and Cross of Gold" at the 1896 Democratic Convention in Chicago[897]

"The mentalité of the gold standard had developed during the long boom of the late 19th and early 20th centuries. It survived the shock of World War I and promised a safe haven for ships of state buffeted by stormy social, political and economic seas. Its anchor, however, proved a millstone around their necks." ... "Its rhetoric dominated discussion of public policy in the years before the Great Depression, and it sustained central bankers and political leaders as they imposed ever greater costs on ordinary people. The mentalité of the gold standard proved resistant to change even under the most pressing of economic circumstances." ... "Basil Blackett observed in 1932 ... the gold standard

897 1:04:25->, Still, Bill, "The Secret of Oz – Winner, Best Docu of 2010 v.1.09.11", documentary, viewed 10.9.2013, http://www.youtube.com/watch?v=swkq2E8mswI

has become a religion for some of the Boards of Central Banks ... believed in with an emotional fervour which makes them incapable of an unprejudiced and objective examination of possible alternatives." – Barry Eichengreen & Peter Temin, "The Gold Standard and the Great Depression" (1997)

Historical observations suggest that a free market is not completely stable and optimal in meeting the objectives listed in "2.1.6.Conclusions – How about a Game Design Approach?", but tends to plunge itself into recessionary cycles causing credit defaults and unemployment: some people being unable to participate in the system and pay their dues despite having productive capabilities.

The view of the Austrian school is that this is only because a *completely* free market has never been attempted and that such an economy with completely unlimited ownership of everything would balance itself in the long allowing stable development. John Maynard Keynes's often quoted reply to this is argument is that "[i]n the long run we are all dead". (Kyenes 1923, p. 80) To settle this dispute for good, such a "free market" would need to be attempted, and the idea of charter cities, seasteads or other kinds of rival governance forms competing over citizens[898] might allow conducting such an experiment. But the fundamental imperfections of a free market[899] suggest it might not be the most competitive alternative after all[900] and might not do very good for the battle against our biggest global environmental challenges.[901]

As mentioned, holding on to physical property (a consumption or production good) is not keeping anyone else in debt as holding on to credit is.[902] The Austrian logic is that, if we used some kind of commodity as money[903], excessive saving could not possibly keep others in debt. If all liquid bank deposits were direct claims to gold stored by the bank (actual "deposits"[904]), all savings would be directly invested in something "physical" – gold if nothing else.

Austrian's claim that unemployment would not exist either, as there would always a price, in any market situation, where employees could find buyers for their work (Rothbard 1962, p. 583-584). The ability of banks to "expand credit"[905] (and the central bank to keep the interest rate "unnaturally low"[906]) are blamed for economic recessions, for distorting the market and by leading to "malinvestment."

Murray N. Rothbard defines "inflation" as:

> "[A]ny increase in the economy's supply of money not consisting of an increase in the stock of the money metal. Fractional reserve banks, therefore, are inherently inflationary institutions." (Rothbard 1963, p. 43-44)

Other Austrian economists define inflation as the increase in price level as a result of such an increase in quantity (which directly assumes a causal relationships between the two). Von Mises dislikes the whole word as it is not a "praxeological term" invented by "economists"[907], but:

> "In theoretical investigation there is only one meaning that can rationally be attached to the expression Inflation: an increase in the quantity of money (in the broader sense of the term, so as to include fiduciary media as well), that is not offset by a corresponding increase in the need for money (again in the broader sense of the term), so that a fall in the objective exchange-value of money must occur." (Mises 1912, p. 240)

In their view, a "natural" rise in prices should not be tainted with this demonic word.[908] In mainstream economic discussion, "inflation" refers to a rise in the general price level of goods and services – regardless of presumed cause.[909] Rothbard's and von Mises's definitions are both quite confusing because, even if we assumed a causal relationship between the amount of money and its purchasing power (the Quantity Theory of Money):

- An increase in the money supply does not always cause a rise in the general price level if the "demand for money" increases by the same rate, [910] which

898 See: "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".
899 See "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".
900 See: "3.5 A Competitive Option and Dominating Strategy".
901 See: "3.4 Environmental Sustainability".
902 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
903 See: "1.2.1 Money Facilitates Trade through Liquidity and Broad Acceptability" and "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".
904 See: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".
905 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".
906 See: "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations".
907 "The notions of inflation and deflation are not praxeological concepts. They were not created by economists, but by the mundane speech of the public and of politicians." (Mises 1963, p. 422)
908 See: "5.1.1 Our Emotional Attachment to Words".
909 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
910 When "fractional reserve banks" "extend credit", they often create more "demand for money" than they create "money", as the debtors need to save to pay their debts back. See: "1.3.5 Inflation Is the Rise in the

Rothbard and von Mises both accept can happen due e.g. economic growth or increased economic insecurity.

- Even an increase in the money supply that is accompanied by metal reserve increases can cause money to lose its value. Rothbard also acknowledges this quoting Hume's fictive example of a fairy doubling the money in people's pockets.[911] As an empirical example, this was the case e.g. when Spanish conquistadors brought back home loads of precious metals they had looted from (and mined with slave labor in) South American colonies.[912]

While redefining "inflation" as an action – creating "empty money" – instead of an economic phenomenon – prices rising – Rothbard takes the causality between the quantity of money and the price level as an unquestionable truth.

Regardless of what words are used, many Austrian economists consider a "natural" drop in the price level (which some of them contend to call "deflation") a harmless phenomenon (Bagus 2006). Other economists – most notably monetarists and Keynesians[913] – are accused of exaggerating its risks and harms and falsely drawing the connection between price stability and economic stability (Rothbard 1963, p. 34-36).

Rothbard's book "What the government has done to our money?" (1963) discusses the possibility of both a single, resource-standardized (e.g. gold or silver standard) currency selected by the market (Rothbard 1963, p. 16-20) and that of competing currencies (Rothbard 1963, p. 36-39) and, in his argumentation, he jumps back and forth a bit carelessly between these two cases. Let's discuss these alternative situations separately.

(Nominal) Price Level – And Has Little to Do with the Quantity of Money".

911 "Following the example of David Hume, one of the first economists, we may ask ourselves what would happen if, overnight, some good fairy slipped into pockets, purses, and bank vaults, and doubled our supply of money. In our example, she magically doubled our supply of gold. Would we be twice as rich? Obviously not. What makes us rich is an abundance of goods, and what limits that abundance is a scarcity of resources: namely land, labor, and capital. Multiplying coin will not whisk these resources into being. We may feel twice as rich for the moment, but clearly all we are doing is diluting the money supply." (Rothbard 1963, p. 28-29)

912 See: 7:45->, "The Ascent of Money: A Financial History of The World by Niall Ferguson Epsd. 1-5 (Full Documentary)", BBC Documentary, viewed 15.3.2013, http://www.youtube.com/watch?v=4Xx_5PuLIzc

913 See: "2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder".

2.2.2.1 A Single Precious-Metal-Standardized Currency

In short:

- *If the "entry barriers" of the "currency market" are high enough to prevent competition and therefore establish a single, dominant currency, the position of which it is hard to contest, then a commodity currency with low price elasticity of supply (like gold) is practically another limited, vital resource, which everyone has the incentive to hoard in order to raise the market value of their current reserves and to avoid being blackmailed themselves.*
- *The assumption that the increased value of one's savings caused by deflation would get people to spend more (the 'real balances argument') is not empirically supported nor game-theoretically viable.*

> "The second differentia of money is that it has an elasticity of substitution equal, or nearly equal, to zero which means that as the exchange value of money rises there is no tendency to substitute some other factor for it; – except, perhaps, to some trifling extent, where the money-commodity is also used in manufacture or the arts." – John Maynard Keynes (1936, p. 146)

The problem with one currency of limited supply falls down to the fundamental market imperfections of a completely free economy, namely the "Land Bug"[914]: the limitedness of vital resources such as arable land and fishable seas.[915] If everyone always had the possibility to make their living self-sufficiently, there would be no need to control private ownership nor what currencies the market uses. No one could be forced to participate in any economy or the use of any currency if it failed to provide her with a means of making her living better than they could by themselves or in a new "spin-off" economy. A government would only be needed to ensure that contracts are followed and that private property is respected.

914 See: "2.3.5 Structure of the Root Bug Hypothesis".

915 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

However, because free arable land isn't available for everyone, everyone is forced to participate in the common economy somehow and if there is only one currency and this currency is the preferred form of payment by all holders of land and other vital resources, this currency also becomes a vital resource. Anyone without access to earning this currency is doomed to starvation.

"No!" says Rothbard:

> "The able-bodied in a developed economy can always find work, and work that will pay an over-subsistence wage. This is so because labor is scarcer than land, and enough capital has been invested to raise the marginal value product of laborers sufficiently to pay such a wage." (Rothbard 1962, p. 585)

> "For the great missing link in their discussion of unemployment is precisely the wage rate. To talk of unemployment or employment without reference to a wage rate is as meaningless as talking of 'supply' or 'demand' without reference to a price. And it is precisely analogous. The demand for a commodity makes sense only with reference to a certain price. In a market for goods, it is obvious that whatever stock is offered as supply, it will be 'cleared,' i.e., sold, at a price determined by the demand of the consumers. No good need remain unsold if the seller wants to sell it; all he need do is lower the price sufficiently, in extreme cases even below zero if there is no demand for the good and he wants to get it off his hands. The situation is precisely the same here. Here we are dealing with labor services. Whatever supply of labor service is brought to market can be sold, but only if wages are set at whatever rate will clear the market." (Rothbard 1962, p. 583-584)

Firstly, the global economy and population has currently reached the size where there is much more scarcity of land than there is of labor. And even when land in general would not be scarce, location in lucrative, central urban locations is always scarce – especially when land can be kept out of the use of others cost-free (a possibility which Rothbard omits[916]).

Secondly, in stating that wages balance the demand for labor in general, Rothbard – ironically – is making the same mistake as Marxists tend to when dismissing the value of capital: ignores the *time value* of labor and consumption.[917] *Between different types* of labor and products, wages and prices are the arbitrators that should balance supply and demand. However, wage levels cannot keep the total demand for current work and future work in balance – i.e. "clear" the labor market. When any kind of money is added to the economy, the demand for money (representing claims to future products and services) *can* exceed its supply, and Walras's law doesn't apply for current total demand for products and services.[918] If everyone wants to first work and then play – e.g. save for their retirement years – there will be a chronic oversupply of labor, which can't be stopped by any reductions in wages – on the contrary.

The price that keeps total supply and demand of labor in balance is not the average momentary level of wages but the *time price* of money – the return for saving and the cost of being in debt[919] – i.e. the interest rate! And the trouble is that when all wages (or wages on average) fall to try to increase the demanded amount of each kind of labor or decrease their supplied amount, the resulting deflation[920] is practically a positive real interest rate – causing the exact opposite effect than intended: The total demand for labor further drops as everyone wants to work yet more and spend less now.

And in addition to the fact that a gold standard would not allow negative nominal interest rates,[921] the market interest rate often does not drop fast enough to compensate for the expected deflation rate (partly because banks cannot be sure of the future deflation rate, even if most savers expected it) and cannot stop the chain reaction.[922]

Therefore, even a small amount of uncertainty in the market – or an overall drop in impatience – can cause a deflationary cycle that drops a big part of people to subsistence level wages ("race to the bottom") or to very sticky unemployment.[923]

The Austrian perspective's arguments against the risk of a deflation chain reaction and the hoarding problem of money and vital resources is probably its biggest weakness. It refuses[924] to see deflation (lowering of the

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916 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding."

917 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production."

918 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

919 All money could be seen to represent credit – expectations of future payments as goods and services – even commodity currencies of fixed supply, instead of seeing them as commodities with a lot of speculative value. See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

920 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

921 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

922 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

923 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

924 This refers to e.g. Rothbard, Hoppe, Bagus and Hülsmann – many of whom are tilted towards deontological libertarian fundamentalism (see: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice").

general price level) as a positive real interest rate and focuses on comparing static "before" and "after" pictures. Phillip Bagus, in his paper "5 common errors about deflation", quotes Rothbard:

> "[T]o the extent that [deflation] *is* anticipated, [entrepreneurs] will hold money rather than buy factors. This will *immediately* lower factor prices to their expected future levels..." (Rothbard 1962, p. 794, *italics* in original)

This in itself explains why *deflation expectations* cause deflation. The trouble is therefore that increased or reduced demand for a currency does not just cause adjustments, but chain reactions. As Rothbard and Bagus themselves say:

> "If people expect the price of money to fall in the near future, they will spend their money now while money is more valuable, thus 'dishoarding' and reducing their demand for money. Conversely, if they expect the price of money to rise, they will wait to spend money later when it is more valuable, and their demand for cash will increase." (Rothbard 1963, p. 31-32)

> "As it is, partial anticipations speed up the adjustment of the PPM to the changed conditions." (Rothbard 1962, p. 797)

> "Again, this postponing of spending, i.e. speculation, would accelerate the price deflation to the expected level and speed up adjustments." (Bagus 2006, p. 12)

This kind of speculative "herd behavior" resulting in "self-fulfilling prophecies" does not only apply to money.[925] When prices rise due to self-reinforcing speculation over future demand of a good for functional uses, the result is a bubble that eventually burst. But the trouble is that:

> "...money has no use-value at all, but only subjective exchange-value." (Mises 1912, p. 97)

Unlike in the case of producible, functional goods of use value that can be produced more (i.e. the supply of which is price-elastic), the "money bubble" has no specific "real value trend line" to burst back to, but might persist, as that single currency is a limited, vital resource: Acquiring it is a necessity if one wants to participate in the economy.

Rothbard asserts strongly that the limitedness of the money supply (e.g. resulting from tying it to the supply of gold) does not obstruct economic growth, because the value of the resource used as money adjusts to suit the needs of the economy. (Rothbard 1963, p. 27-28) If the amount of transactions in the economy doubles, the demand for money doubles and thus the value of the money – gold or silver – doubles so that prices will just be half of what they were and there will again be enough money to serve the transaction needs of the economy. Jörg Guido Hülsmann explains this with the simple case example that if e.g. a company made 20 million of profits on revenues of 120 million (which he wrongfully says is the same as "return on investment") and the value of money were to double, he'd just make 10 million of profits on 60 million of revenues.[926]

People's and companies' real incomes have not changed, true, but the real value (purchasing power) of their savings and debts have! People's loans and monetary savings are by default tied to the currency unit used and therefore unexpected changes in the currency unit's purchasing power are significant, immediate *wealth transfers* between debtors and creditors.[927] Even when the price changes are predictable enough to allow adjusting nominal interest rates to compensate for them, the nominal rates cannot drop below zero. Deflation therefore forces huge real interest rates on debtors against their consent. Allowing such deflation would be "usury on steroids".

Also, Hülsmann does not seem to be very familiar with basic corporate finance and the determinants of the costs (profit requirement) of equity capital. If this deflation occurred within e.g. a year, it would imply a 100 % real interest rate on cash, which would raise the profit requirements for all other investments equally.[928] Suddenly, 10 million on e.g. 50 million of capital employed (20 %) isn't so profitable anymore when the alternative would've been to keep that 50 million in cash and receive a 100 % profit!

For example Friedrich Hayek acknowledges the importance of price level predictability. (Hayek 1976, p. 20)

925 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

926 "...then at the lower price level, again, entrepreneurs can operate profitably. So when before, annual revenue was 120 million and all costs was 100 million so we had to return on growth, return on investment of 20 %, so then if the hoarders come like a plague on our economy taking half of the money supply out of circulation – all price will fall, our revenue will fall to 60 million, but we'll have a cost expenditure of 50 million producing the same amount of lamps carpets and so on – just selling them for half and buying our factors of production for half. So we forget about this argument."
– Hülsmann, Jörg Guido, 2011, "The Ethics of Money Production | Jörg Guido Hülsmann", speech at Mises University in Auburn, Alabama, 28:15 ->, viewed 8.4.2013, http://www.youtube.com/watch?v=8zYg4E4zbPo

927 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

928 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

And the price drop does not even need to be that big. If prices and wages are expected to drop a mere 6 % in the next month, this is equivalent to a 101,2 % annual real interest rate (return for holding money). All investments that are not expected to yield an at least 100 % annual return would be postponed. Additionally, a lot of potential consumption would be postponed (the desire to save would increase) to gain these returns on savings. This would likely result in a much bigger than 6 % drop in prices and wages. We can see how (and e.g. Friedrich Hayek agrees[929] that) stable and predictable price development is extremely valuable for an economy.[930]

Austrians like to point to periods of economic growth under a deflationary gold standard currency, such as the "Great Deflation" in the late 19th century. (Bordo & Redish 2003) And of course such growth is possible. But if the investors are clever enough to know about the deflationary nature of the currency,

- this growth would need to be stable with little economic uncertainty and (demand and supply) shocks; and
- it would have to be accompanied by constantly available real investment opportunities (technological advances and a constant expected increase in future consumption) and people's average time preference[931] needs to be of the impatient sort to ensure that it remains profitable to invest in actually productive ventures rather than hoard money.

An economy run with a currency with *stable* deflationary tendencies can work for a while, but is not very robust to shocks. It is noteworthy that during "the Great Deflation", the average annual deflation rate was only around 2 %.

The Austrian arguments seem rather valid in the realm of *statics*,[932] but show a significant neglect of the laws of *dynamics*. In the case of stock market bubbles or hype on other non-vital resources,[933] the bubble eventually punishes for itself when the actual profit potential of the companies or assets are revealed. However, in the case of vital, limited resources this is not so. The more scarce these resources become for others in the market, the more desperate they become to get them or what they produce and the lower a price they are willing to take for their work to get at least some. (See: Graph 13) Rothbard argues that:

> "...the demand for money could not be infinite since people must always continue consuming, whatever their expectations. Of necessity, therefore, the demand for money could never be infinite. The existing level of consumption, in turn, will require a certain level of investment. As long as productive activities are continuing, there is no need or possibility of lasting unemployment, regardless of the degree of hoarding" (Rothbard 1962, p. 791)

and that eventually the increased buying power – "desired increase in real cash balances through falling prices" (Bagus 2006, p. 12) – will cause those with money to spend. This statement is either extremely naive and ignorant of game theory – as Austrian economics tends to be (Foss 2000) – or purposefully deceitful (in addition to, again, being contradictory to what Rothbard himself says[934]).

First of all, when prices for goods and the wages paid for work are both expected to go down, people with no possession of land or other vital natural resources are encouraged to save as much as they can and spend as little as possible – simply because the expected fall of prices makes earning more profitable now and spending more profitable later. While the *"real balances"* argument[935] makes no sense (not even in the praxeological frame, as von Mises insists that people are not "historians"[936]), expected future *real interest rates* have a notable effect on people's saving and borrowing (and hence spending and earning) behavior. Falling wages and prices mean high real interest rates.

Because it is almost always more profitable and less risky to pile up work and buy services from fewer people than

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929 "People will be quite as reluctant to borrow or incur debts in a currency expected to appreciate as they will hesitate to lend in a currency expected to depreciate. The convenience of use is decidedly in favour of a currency which can be expected to retain an approximately stable value." (Hayek 1976, p. 20)

930 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

931 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

932 E.g. Rothbard completely omits that any expected changes in market value could affect people's behavior. This applies to his conclusions about both money and land (see: "4.3.1.5 Other Objections to and Concerns with Land Value Taxation"). Taking an analogy from physics, Rothbard's world is a kind of $pV = nRT$ world where momentum and kinetic energy don't exist.

933 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

934 "People will almost always say, if asked, that they want as much money as they can get! But what they really want is not more units of money – more gold ounces or 'dollars' – but more effective units, i.e., greater command of goods and services bought by money." (Rothbard 1963, p. 34)

935 Austrians are not alone in this belief. Also e.g. Arthur Pigou believed that increased real balances – satisfying the demand for such savings – would increase consumption. (Krugman 1999-2)

936 "Acting man does not look at his condition with the eyes of a historian. He is not concerned with how the present situation originated. His only concern is to make the best use of the means available today for the best possible removal of future uneasiness." (Mises 1963, p. 480)

to diversify the purchases to many "work suppliers",[937] this will cause a ruthless competition over these "supplier positions" – "jobs" – and wages will plummet to subsistence level – and, as Bagus and Rothbard insist, this will happen immediately rather than later. This is also called the Iron Law of Wages.[938] The fear of unemployment further decreases anyone's willingness to work less and give others earning opportunities, because their primary focus is to ensure their own survival and bargaining position, which savings allow.

Why doesn't the "real balances" argument make sense? Because anyone with possessions of money and other vital resources notices that the more they manage to collect it, the more the price of other people's work drops and hence the buying power of their gold increases. Thus they will be strongly incentivized to gather more or at least avoid using what they are currently holding. As they will be able to charge yet higher "interest" for their gold or rent for the land they posses, they will be able to keep their consumption below their income from the rents and interest and hence save up more and more gold and other vital resources like land.[939] The more they pile up these resources, the more ruthlessly they can demand any form of service they want from others if these others wish to survive. Thus everyone will be attempting to hoard this "medium of exchange" regardless of how much of it they already have.[940] And if not everyone, at least I would be.

And it is likely that, e.g. in an uncertain market situation, those with the *lowest* cash balances would be the ones most eager to increase their balances – and that those with debt would also have a desire to decrease their debt balances.

Deflation, perversely, raises most the cash balances of those who *already have* the biggest cash balances, and *increases* the *debt balances* of the net indebted. Once again: The "real balances argument" is usury on steroids.

The idea of the price mechanism governed by supply and demand is that activities (e.g. types of labor or production) that are done in excess are (automatically) discouraged by the reward for them falling and vice versa.[941] It is interesting how these Austrian economists think that when there is excessive desire to save, this would (and should) be prevented by the reward for saving *rising* – or, rather, by granting an immediate windfall reward for those doing it most excessively.

According to monetarists and many other economists, the Great Depression of 1930 is an example of this kind of deflationary cycle (although they excessively emphasize the role of the quantity of money and debt decreasing, as in Fisher's "debt deflation" model[942]). Austrian economists of course refute this claim insisting that once again it was excessive credit expansion and too low interest rates that caused the preceding "boom", which caused the "bust" and that it was *too much* government intervention that sustained the depression. Even Milton Friedman, a famous libertarian, attributes the Great Depression on failures by the FED to increase the supply of money to counter deflation.

Rothbard insists that deflation – even as the result of hoarding – never "brings any loss to society" (1963, p. 33) or any transfer of wealth – although simultaneously he notes that the purchasing power of money provides "command of goods and services", i.e. power over others.[943]

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937 See: "4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable".

938 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

939 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

940 Rothbard also, very interestingly insists that uncertainty is the only reason why people hold monetary balances, and that without uncertainty, money would have no value whatsoever:
"Thus, ironically, if it were not for the uncertainty of the real world, there could be no monetary system at all! In a certain world, no one would be willing to hold cash, so the demand for money in society would fall infinitely, prices would skyrocket without end, and any monetary system would break down." (Rothbard 1963, p. 32-33)
Here, Rothbard clearly disagrees with von Mises:
"Every economic agent is obliged to hold a stock of the common medium of exchange sufficient to cover his probable business and personal requirements. The amount that will be required depends upon individual circumstances. It is influenced both by the custom and habits of the individual and by the organization of the whole social apparatus of production and exchange." (Mises 1912, p. 132)
...and (once again) also contradicts himself:
"Money is only useful for exchange value, true, but it is not only useful at the actual moment of exchange. This truth has been often overlooked. Money is just as useful when lying 'idle' in somebody's cash balance, even in a miser's 'hoard.' For that money is being held now in wait for possible future exchange – it supplies to its owner, right now, the usefulness of permitting exchanges at any time – present or future – the owner might desire." (Rothbard 1963, p. 32)

941 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

942 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "Sidenote Box 311A: Other Theories of Cyclicity: 'Debt Deflation', ABCT and Real Estate Pull".

943 "People will almost always say, if asked, that they want as much money as they can get! But what they really want is not more units of money – more gold ounces or 'dollars' – but more effective units, i.e. greater command of goods and services bought by money." (Rothbard 1963, p. 34)

Sidenote Box 2221A: What If Scrooge Really Had a Money Bin?

Scrooge McDuck is a good example of propaganda on how one person gathering up all the gold would not harm the society at all (and a skinflint, whose manners we might scorn, but whose hardworkingness, self-restraint, persistence and frugality we admire – along the Protestant work ethics that still unconsciously define virtue for us). Of course, Scrooge's money bin is only symbolic of his general wealth and yet another example of the symbols and expressions we use for money and wealth are very misleading.[944] In practice such an actual money bin – and its economic impacts on Duckburg – would make little economic sense.

If Duckburg operates on a gold standard, it is hard to fathom how the city and the country are still running. Scrooge piling up more and more of the gold combined with economic growth would likely lead to high deflation, reducing the incentives for productive real investment and restricting demand compared to supply. The only feasible possibility is that Scrooge is the only person with any business logic or self-preservation instinct in the whole society and all other participants are ignorant and impatient spending machines (i.e. they have a very high "time preference"[945]).

If it is operating with credit money with a "regular", low inflation policy, it is hard to understand why Scrooge would be keeping his assets out of productive use as notes and coins, earning no interest and hence making a constant loss. He is of course referred to as a banker, so someone might conclude that the money in his vault is someone else's money. But this perception of banking is also fundamentally misled. Banks' assets are not as cash or gold, but mainly as "loans" – credits on their debtors[946]. Holding such vast reserves of inflationary cash would be making a loss no matter what kind of banking system he has built on top of it.

944 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".
945 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
946 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

Many libertarians[947] (especially those in support of Austrian economics) say that the price of liberty is morality. People can't be so evil that they would purposefully enslave others by hoarding up vital resources and tools of exchange in this way, can they? Thomas Hobbes's fairly sound argument, is that – even if people weren't fundamentally malicious towards each other – when people *can* attack each other for their own benefit (or to otherwise impose costs on others for their own advantage) without a fear of punishment, this almost forces people to attack each other simply out of fear of being attacked (or of others abusing their position) first.[948] Hobbes's argument preceded formal game theory by centuries, but it can be easily supported with simple game-theoretical models and it has been demonstrated in recent research as well.[949] As W. Edwards Deming, the initiator of Total Quality Management put it:

> "A bad system will beat a good person every time."

Physical attacks can be prevented through participating in a voluntary central government creating a police force to punish violators of people's right to their bodies and property and participating in such a government voluntarily would be a game-theoretically viable option for most participants. However, if the private ownership of natural resources is also protected, this does not outlaw gathering up vital resources and thus lowering the negotiating position of other agents in the economy. Thus, the possibility that anyone else could get possession of a significant portion of those vital resources to blackmail you, forces you to mitigate this risk by doing it first. A single commodity money would be one more limited, vital resource.

947 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".
948 11:30->, Pinker, Steven, 2007, "The Surprising Decline in Violence", TED Talk, viewed 16.7.2013, http://www.ted.com/talks/steven_pinker_on_the_myth_of_violence.html
949 "When there is this punishment issue going on, cooperation shoots up." ... "It really helps to have some sort of punishment to bring people – when they are in large groups – to cooperate." 12:30->, Haidt, Jonathan, 2008, "The moral roots of liberals and conservatives", TED Talk, cited 12.5.2013, http://www.ted.com/talks/jonathan_haidt_on_the_moral_mind.html

2.2.2.2 The Inefficiency of Competing Currencies

In short:

- ***If there is constant competition between different currencies locally, this causes both inefficiency and instability due to speculation over which currency will be most "trendy" in the near future.***

> **"There could be no more effective check against the abuse of money by the government than if people were free to refuse any money they distrusted and to prefer money in which they had confidence." – Friedrich A. Hayek, Choice in Currency: A Way to Stop Inflation (1976, p. 18)**

> **"The simultaneous use of several kinds of money involves so many disadvantages and so complicates the technique of exchange that the endeavor to unify the monetary system would certainly have been made in any case." – Ludwig von Mises (1912, p. 33)**

But what if there could be competing currencies? If anyone started hoarding up too much of the gold reserve, people could solve this by starting to use silver or something else as currency. If that was hoarded up too, they could shift on to using something that can be produced more easily (with more elastic supply), like grain, salt or sugar. Rothbard explains very early on in his book that the value of a single currency is mainly in that it makes it easier to compare the prices of different goods with each other, which decreases transaction costs by increasing general liquidity – tradability of goods – in the system (Rothbard 1963, p. 16-17). Later, when he introduces the possibility of multiple currencies as a way to avoid hoarding of the currency, he lays little emphasis on the fact that the main value of a single currency would be lost, although – as von Mises – he assumes a single currency to be the preferred option:

> "It is very possible that the market, given free rein, might eventually establish one single metal as money." (Rothbard 1963, p. 37)

The possibility of competing currencies would prevent the most harmful effects of hoarding the currency in the long run but would not prevent short run speculative fluctuations in the buying power of the currency and the exchange rate between the currencies. This is because "entry barriers" to the "currency industry" – if we may call it an industry – are very high. Getting a new currency to become commonly accepted tender (people to state prices in it and accept payments in it without huge risk premiums and exchange fees) is not an overnight task. When a new currency is finally considered a viable option, the value of the previously dominant currency would plummet quite suddenly, as its value has been largely based on others being desperate to acquire it to earn their living. Any widely accepted commodity money (including bitcoin[950]) is essentially a constant, speculative bubble – whether it had enough of a monopoly status to match a limited, vital resource or not.[951]

These exchange rate and price level fluctuations would:

- increase the risks of lending, borrowing and saving (unless the loans were tied to some other basket of consumption goods),[952]
- increase transaction costs by requiring people to constantly consider which currencies to use for purchases, which to hold as savings and which to tie their debts to,
- waste a lot of resources by forcing entrepreneurs to focus more on the possible price changes of the currencies, than their actual business of providing valuable services and goods, and
- increase the difficulty to audit and compare accounting, as companies might use different reference currencies in their balance sheets and reports – and hence a difficulty in comparing different investment options in general. A company's solvency might be wholly different when calculating in wheat instead of silver. Would companies need to hold multiple balances sheets?

Phillip Bagus insists that speculating with prices is the job of entrepreneurs.

> "Delong (1999) claims that it is not an entrepreneurial task to anticipate price changes. Yet, this view is erroneous. Entrepreneurs try to anticipate all relevant future changes. Especially important for them are the prices of their factors of production and their selling prices." (Bagus 2006, p. 2)

I agree with Bagus that surely the whole point of entrepreneurship is to assess whether an investment

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950 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".
951 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".
952 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

is worth the risks or not, and that the prices people are ready to pay for the products of the venture determine its profitability. Adam Smith (whom Rothbard seems to deeply loathe (Pack 1998)) would also agree:

> "The establishment of any new manufacture, of any new branch of commerce or of any new practice in agriculture, is always a speculation, from which the projector promises himself extraordinary profits." (Smith 1776, p. 99-100)

But having to speculate on the value of the *currencies* used to make the *transactions* is not the core business of most entrepreneurs. Even Rothbard emphasizes how money – as a common point of reference for prices – makes economic calculations easier:

> "Only the establishment of money-prices on the market allows the development of a civilized economy, for only they permit businessmen to calculate economically. Businessmen can now judge how well they are satisfying consumer demands by seeing how the selling-prices of their products compare with the prices they have to pay productive factors (their 'costs')." (Rothbard 1963, p. 17)

Coexisting, competing currencies would hamper the efficiency of such calculation significantly – and so does the volatility of prices caused by *possible* entries by competing currencies in to the currency market.

Hedging against these risks would probably be outsourced to banks (as even Rothbard suggests could be done[953]) – similarly to how internationally operating companies now hire banks to help them hedge against currency exchange risks. Practically banks could externalize the risks of the fluctuations in gold and silver by providing bonds tied to a more versatile range of resources. These bonds or shares in them could then be used for trading by individuals who don't want to subject themselves to the risks of the fluctuation value of "money".

Wait, what do we have here? Credit money the value of which is tied to a diversified range of resources – very much like our current dollars and euros, the inflation rates of which (the change in their unit value compared to the general living expenses) is kept stable.[954] Because a versatile range of different credit currencies provided by different banks is also inefficient, it makes much more sense for the government to provide the service of maintaining the value of these credit bonds by providing banks and borrowers with an easy reference point for any credit contract – a unit of account, like dollars and euros.

Austrian economists don't directly say that gold or silver would be the best possible base for a currency, but rather believe that the market should be allowed to decide what currency they wish to use.[955] And they strongly believe that the "government fiat currency" with its possibility of credit expansion is only keeping its current status because:

- the government has dictated it to be the legal currency
- that taxes can *only* be paid in this currency
- and the government unfairly guarantees the cash liquidity of banks hampering with free and fair competition, by removing the threat of bank runs.

In a free market – Austrians are sure – a currency directly representing a resource would replace a currency based on such "fraud". However, as discussed in "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral", tying one's loans to the value of a single commodity for which one has little practical use, is very risky. At least I would not dare to tie my house mortgage to gold, nor would I prefer to receive my salary in and hold my savings by default as a commodity in which the prices of goods I really need can vary as unpredictably.

I might however, include gold as part of my investment portfolio to speculate with the rise of its value. Gresham's law – which many Austrian economists like to refer to as well – states that "bad money drives out good money" or "money overvalued artificially by government will drive out of circulation artificially undervalued money." (Rothbard 1963, p. 24) This also demonstrates how a currency of limited supply becoming too good a "store of value" or object of investment starts hampering its function as "a medium of exchange".

The author's strong opinion is therefore that a unit of account the purchasing power of which is subject to a predictable rate of change (i.e. in which the general price level rises stably) and having a versatile range of real capital (incl. real estate) and potential labor (earning potential of the debtors) as collateral backing it up would be a preferred currency (over one tied to the market

953 "Yet, if creditors and debtors want to hedge against future changes in purchasing power, they can do so easily on the free market. When they make their contracts, they can agree that repayment will be made in a sum of money adjusted by some agreed-upon index number of changes in the value of money." (Rothbard 1963, p. 35)

954 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

955 "What kind of "standard" will a free money provide? The important thing is that the standard not be imposed by government decree. If left to itself, the market may establish gold as a single money ("gold standard"), silver as a single money ("silver standard"), or, perhaps most likely, both as moneys with freely-fluctuating exchange rates ("parallel standards")." (Rothbard 1963, p. 38)

value of a specific resource) for transactions and keeping account of credits and debts for most companies and consumers – even when they were not legally bound to using it in private transactions or paying taxes. The only competitive advantage of other currencies (e.g. bitcoin, gold) over this kind of credit money currently is how they facilitate anonymous transactions and illegal avoidance of transaction taxes like VAT/GST, income tax, social security payments and capital income taxes[956].

Noah Smith, an assistant professor of finance at Stony Brook University and a blogger for The Atlantic, is not very kind towards Austrian economics:

> "Finally, though mainstream economists may not have it all figured out, they are far better than most of the groups who lurk outside the mainstream. For example, spend an afternoon reading the ideas of so-called 'Austrian' economists, who believe that we only need logic to understand how the economy works, and that data and evidence are useless. Absurd. But that's the kind of alternative that's out there, and some people really believe that stuff."[957]

I would not be quite as harsh on the Austrians. Even they have some good points sometimes. Neither would I completely condemn the idea of developing economic theories through logic. As discussed in "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison", economics is a science where controlled "laboratory" experimentation in the bigger scale is very difficult. Blindly trusting past empirics (e.g. by concluding unbreakable causal chains from correlations found through regression analysis) can lead to seriously mistaken conclusions.[958] Theory, modeling and thought experiments on how different people would act in different situations with different information is absolutely necessary if we want to be innovative in developing our economic systems and "sanity check" potential solutions before implementation.

However, such reasoning becomes unproductive and religion-natured when one is not ready to abandon or question a "logic" even after contrary evidence – e.g. the praxeological assumption of target-oriented behavior[959] and "the real cash balance" argument that people (in this case, creditors) would start to spend a bigger part of what they have when they get richer. Rothbard makes it pretty clear that, to him, economics is more of a religion than a science:

> "Economics, in fact, 'assumes' nothing. The whole discussion of alleged 'assumptions' reflects the bias of the epistemology of physics, where 'assumptions' are made without originally knowing their validity and are eventually tested to see whether or not their consequents are correct. The economist does not 'assume'; he knows. He concludes on the basis of logical deduction from self-evident axioms, i.e., axioms that are either logically or empirically incontrovertible." (Rothbard 1962, p. 582)

Of course, e.g. mathematics and (other) lingual studies are purely theoretical subjects where empirical testing is practically impossible. Hence, for e.g. Karl Popper, mathematics is not a *science* as such. Most mathematical claims are not *falsifiable* empirically, as any "proofs" deduced logically from predetermined axioms are tautologies, i.e. restatements of definitions, which do not make any claims about how the real world (as we perceive it) works. You cannot test empirically whether 1+1 equals 2 or not, because this is simply a restatement of how the numerical order and the plus operation are defined. Mathematics is essentially a language – which is used as a component of many other "languages": models and theories.

But economics is the study of the behavior of people in the context of allocating resources towards ends.[960] There are no "incontrovertible truths" about how people behave or make decisions. Any purported "axioms" – no matter how "self-evident" – about *how people behave* are *assumptions* about how the real world works, and the ability of theories derived from such assumptions to predict how things play out in the real world (their "correspondence")[961] *can* be tested and falsified empirically. When a language with the assumptions included in it and statements made in it are taken as unquestionable dogmas and these languages (are expected to) affect people's expectations about the future

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956 "People in Finland pay high taxes and tax evasion is generally reprehensible. [But] I know many people in Finland that use bitcoin to avoid taxes (and mandatory employer fees) when paying salary for small job assignments", [Vesa] Linja-aho [an engineering and economics lecturer at a Helsinki university] said."
– "Bitcoin Utopia? Interest Is Sky High in This Euro Nation", CNBC, 5th Apr 2013, cited 7.4.2013, http://www.cnbc.com/id/100618694

957 Smith, Noah, "Should We Trust Economists?" 4th Jun 2013, cited 19.6.2013, http://www.theatlantic.com/business/archive/2013/06/should-we-trust-economists/276497/

958 See e.g.: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate", "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money" and "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

959 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

960 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

961 The Coherence Theory of Truth and the Correspondence Theory of Truth are discussed in more detail in this book's sister, The Guilt Economy.

and their decisions, we're talking about a religion, not a science.

2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)

In short:

- *When unrestricted trade seems to result in an unfair and non-optimal income distribution, the political left-wing tends to focus on different ways of redistributing income by manipulating or circumventing market mechanisms.*
- *It is easy for observers to justify such actions when only focusing on the direct effects for the intended focus group, omitting externality effects and other systemic reactions, such as the impact on others' real income.*
- *Upon closer observation, most means currently employed to e.g. lower income differences are quite ineffective treatments, doing more to perpetuate than alleviate the underlying root causes and the resulting injustice and inequality.*

"I am opposed to millionaires, but it would be dangerous to offer me the position." – Mark Twain

"Society can no longer live under the bourgeoisie, in other words, its existence is no longer compatible with society." ... "The distinguishing feature of communism is not the abolition of property generally, but the abolition of bourgeois property." – Karl Marx & Friedrich Engels, Communist Manifesto (1848, p. 13 & 14)

"Karl Marx described the government restriction of business freedom for the sake of the collective interest of the capitalist class as it acting as 'the executive committee of the bourgeoisie'. But you don't need to be a Marxist to see that regulations restricting freedom for individual firms may promote the collective interest of the entire business sector... In other words, there are many regulations that are pro-rather than anti-business." – Ha-Joon Chang (2010, p. 198)

"And while professors thus disagree, the ideas that there is a necessary conflict between capital and labor, that machinery is an evil, that competition must be restrained and interest abolished, that wealth may be created by the issue of money, that it its the duty of government to furnish capital or to furnish work, are rapidly making way among the great body of the people, who keenly feel a hurt and are sharply conscious of a wrong. Such ideas, which bring great masses of men, the repositories of ultimate political power, under the leadership of charlatans and demagogues, are fraught with danger; but they cannot be successfully combated until political economy shall give some answer to the great question which shall be consistent with all her teachings, and which shall commend itself to the perceptions of the great masses of men." – Henry George, Progress and Poverty (1912, p. 20)

It is clear that everyone has at least some expenses and thus someone having to go without any income is clearly not the optimal solution if we want to maximize (the chances for) economic activity and avoid excessive debt. Because the marginal propensity to save tends to be growing, a more equal distribution of income would clearly provide more demand than a strongly polarized one and thus decreasing income differences would surely increase total consumption and thus also make investing more profitable. That is very true.

In a market economy of supply and demand, there need not be "winners" and "losers" in people. Between *companies* – competing organizational forms – yes, there is a constant ruthless deathmatch,[962] but every *person* can still be a winner in her own way. Nevertheless, there will be completely justifiable income differences in such a win-win outcome, which don't have to involve anyone benefitting unfairly on any other person's expense.

In our current economic system, we also have unjust income differences – mainly as a result of monopolies[963] and protectionism that restrict others' freedoms of choice[964] – but also because *earning opportunities* aren't

962 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".
963 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".
964 See: "3.2.3 Unionization and Strikes", "3.3.1 Solving Poverty for Good – Ending the Economy War" and "4.1.4 Subsidize, Deacademize

allocated optimally. The importance of getting demand to meet supply in the labor market on the individual level is the essence of Fixing the Root Bug.[965]

The "political left" – meaning in this case the socialist side – often takes income equality as an objective in itself and has through the decades suggested many different ways of redistributing unearned income or otherwise interfering with supply and demand in the labor market. Such interventions have been rather easy to justify, as supply has never really met demand in the labor market and especially the extreme inelasticity of the supply of different kinds of labor – resulting from the quantization of work into jobs – has made wages very volatile in an unregulated market. With the Root Bug fixed, many of these symptom treatments would be unnecessary and only cause an increase in unjust income differences.[966]

In the subchapters of this chapter, we present such ways of redistributing unearned income and other ways in which different professional factions and other political interest groups have attempted to shift the tables in their favor as well as discuss their claimed "justness", nasty side effects that they cause and why many of them are ineffective in the long run at addressing the issues they claim to be addressing.

2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'

In short:

- *Labor unions are cartels and collective bargaining is essentially using a monopoly position to blackmail more benefits for one's own interest group on the expense of others.*
- *Collective bargaining increases supply and demand mismatches (which currently means unemployment) in the labor markets in question and results in the professions with the best blackmailing position (e.g. those operating in capital-intensive industries or vital industries with low price elasticity of demand) getting the highest wages.*

> "Each union is forced to use its power to try to increase the share going to its members even though its more intelligent leaders know that what it gains is not from the employer, who can and will pass any wage increase on in higher prices, but from the population as a whole – which means in the main from other workers and their families. They also know that other trade unions will have to do the same so that there is nothing left but a general inflation. For any particular trade union to restrain itself in the scramble may merely mean that it is left behind while the inflation continues." – Abba P. Lerner (1947, p. 315)

> "Labor cannot increase its share at the expense of capital." – Eugen von Böhm-Bawerk

Labor unions (a.k.a. trade unions) are cartels bargaining for their employed members on the expense of everyone else in the economy. Or, actually, "labor cartels" is a bit of an euphemism. Usually, in cartels, the participants decide together on prices or how to split the market among themselves. Although many trade unions are officially democratic in that they have boards and electorates supervising their operations, it can seriously be questioned how democratically they really are governed.[967] A trade union is practically an external entity that has seized a monopoly position of selling labor in an industry or area. In many cases, "organized" companies are not legally allowed to hire non-union workers at all.[968] As unions tend to dislike selling part-time work (Christensen & Schneider 2010, p. 12[969]) – rather leaving some professionals completely unemployed – and as, in today's labor markets, a human being practically is the unit of labor[970], "human trafficking monopolies" would be a more descriptive expression.[971]

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and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

965 See "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

966 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

967 Operative officials in unions do long careers and are seldom fired by the board due to pressure from union members. And how many people do you know that take actively part in their union's policies?

968 Sherk, James, "The Union Difference: A Primer On What Unions Do To The Economy", Capital Research Center, 3rd Jan 2012, cited 31.10.2013, http://capitalresearch.org/2012/01/the-union-difference-a-primer-on-what-unions-do-to-the-economy/

969 See: "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life".

970 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

971 The "members" of a union can by no means be considered its "owners" – they have no voting rights and receive no dividends. Whether they are more like its "clients" or "merchandize" depends on perspective. In analogies to a real estate dealership or a brothel, "merchandize" would be more suiting. If comparing to a manager of a sportsman or artist, we could call them "clients" – except that artists can switch managers and that managers don't have monopolies over certain concert venues or competitions. There are no locally competing unions within professional

This kind of bargaining and monopolization can be considered understandable in a situation or a region where one or a few employers have a practical monopsony in the labor market – i.e. a monopoly on providing earning opportunities. Seemingly, the only way for employees to counter this would be to create a monopoly of their own. Such situations are rare in today's markets, where long run geographic mobility is possible. On a larger scale, The Iron Law of Wages, causing real wages to fall to subsistence level[972] (in the absence of social support) and the resulting constant increase in income differences in a "free market" seems to give justification for controlling wages on a national level, but unfortunately such initiatives do more harm than good.

Labor unions claim to be bargaining against the employer companies' profits. But if competition between companies works as it should, any profits are eventually eroded by this competition and therefore any increases in productivity – that do not increase the industry's employees' real income – eventually turns into benefits for the consumers of the produced products as lower prices or better quality.

Similarly, increased labor costs on the level of the whole industry – resulting from e.g. collective bargaining by unions – raise prices for consumers because companies will not operate for long unless they manage to meet the profit requirements of their investors' capital.[973] Thus, when the employer is not operating in a monopoly industry (even if it had a monopsony[974] position, i.e. a buyer's monopoly, in providing employment in an area), collective bargaining is always on the expense of other people in other professions – and even more so on the expense of the unemployed in the same profession.

As explained in "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand", tampering with market balance prices (of markets subject to fair competition – not e.g. with limited, vital resources) almost inevitably leads to a mismatch of supply and demand. In the case of artificially raising wages, this results in an oversupply of labor. And when work is quantized into jobs[975] (i.e. when it is profitable for employers to buy labor from as small a number of suppliers, workers, as possible), this means individuals being left unemployed – not getting the opportunity to supply their labor at all, while others – with equal skills and abilities – get to provide it with an elevated price. There is hardly anything that can be said to be "fair" about such an outcome.

Higher bargained wages on the company level, and also on the industry level in an industry under tight international competition, might not cause as big a rise in prices, but rather increase the risk of the employer company going bankrupt due to lower competitiveness. Thus, such collective bargaining is significantly deteriorating the union members' own income security.[976]

If the national competitiveness of an export industry is restored by currency devaluation after the wage raise, then the end result is, again, an income transfer from all other employees in the economy. One quite clear example of such a "robbery" was when the Finnish paper workers managed to constantly raise their wages and the paper industry managed to lobby repetitive devaluations of the Finnish currency, markka, between 1957 and 1991 to maintain its international price competitiveness. The paper labor union might just as well have bargained for lowering everyone else's salaries in Finland.

The inevitable result of increased collective bargaining is that the industries where employees have the best blackmail position get the highest wages. Historically, e.g. pilots and paper workers have been successful at raising their wages through strike threats, due to the high capital intensity of their industries, which would've made even a few days' strike very costly. The costs of "industrial action" are further raised by the fact that paper machines are very expensive to turn off an on and by the costs of service failures (including direct compensations and reputation damage) in the airline industry. More recently, as a result of tighter international competition, such actions have caused more bankruptcies and closed factories – or sustained losses to state-owned airliners (which are avoiding downsizing for political reasons[977]). The pattern behind the bankruptcies of American car manufacturers centered in Detroit is similar, with foreign entrants hiring nonunion workers and putting the unionized companies out of business.[978]

The "justice" advocated by collective bargaining is a kind of "justice of the strongest" – though not "survival of the fittest." The "strongest" here are by no means the "fittest" (for the environment), but the most ruthless and the ones in the most dangerous positions, and even they eventually damage their own survival potential, like the paper union now has in Finland.

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groups or industries.

972 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

973 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

974 "Monopsony", definition, Investopedia, cited 14.7.2014, http://www.investopedia.com/terms/m/monopsony.asp

975 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

976 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "3.2.3 Unionization and Strikes".

977 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

978 Sherk, James, "The Union Difference: A Primer On What Unions Do To The Economy", Capital Research Center, 3rd Jan 2012, cited 31.10.2013, http://capitalresearch.org/2012/01/the-union-difference-a-primer-on-what-unions-do-to-the-economy/

Even when employer monopsonies – or other situations where employees have limited choices of earning opportunities – emerge, a more effective way of removing unfair income differences and extortion by the monopsony (than blackmailing back with an employee cartel) would be increasing available employment alternatives, e.g. by facilitating employee mobility, remote work and entrepreneurship.

Fixing the Root Bug would significantly increase mobility between different industries – ensuring that people would always have choices of how to make a living in the long run – and also improve individual employees' negotiation position by ensuring that, even within industries, no one has the risk of losing her income permanently due to trends or structural changes.

More on the troubles with unionization in "3.2.3 Unionization and Strikes".

2.2.3.2 Restricting Supply – 'Stay out of Our Territory'

In short:

- *Restricting other people's access to one's own labor market by limiting education positions or other operating licenses in order to prevent wage competition is one of the more "market-based" and subtle ways of redistributing income (i.e. "robbing" others).*

> "But the policy of Europe, by not leaving things at perfect liberty, occasions other inequalities of much greater importance. It does this chiefly in the three following ways. First, by restraining the competition in some employments to a smaller number than would otherwise be disposed to enter into them; secondly, by increasing it in others beyond what I naturally would be; and, thirdly, by obstructing the free circulation of labor and stock, both from employment and from place to place. First, The policy of Europe occasions a very important inequality in the whole of the advantages and disadvantages of the different employments of labour and stock, by restraining the competition in some employments to a smaller number than might otherwise be disposed to enter into them." – Adam Smith, Wealth of Nations (1776, p. 103)

> "The chief ethical rule is the following: Thou shalt not have antifragility at the expense of the fragility of others." – Nassim Nicholas Taleb, Antifragile (2012, p. 5-6)

While labor unions of low-skilled professions restrict the supply of their labor by striking and other forms of blackmail, labor unions of high-skilled professions do so more often by restricting education opportunities. As will be discussed in "3.2.2 Unfair Income Differences and Limits to Social Mobility" in more detail, in countries without public education subsidies, such restrictions by political means are often unnecessary, as a constant undersupply is maintained simply by the fact that even the slightest fear of oversupply causes fewer people to dare make the 6-figure investments into more advanced education. However, in e.g. the Nordic welfare state system, where education is strongly government-subsidized – and in some cases monopolized[979] – labor unions have a significant influence on education politics. Probably one of the most dramatic case example is Finnish medical education, where public sector universities have a monopoly on granting medical degrees and the doctor union strongly influences then number of available university places. Not only is the supply restricted with monopolized education, but doctors also have a legal monopoly on for example prescribing medication and writing certificates for sickness-related leaves of absence for employees, which further reduces the price elasticity of demand for their work.

Thousands of matriculants and older candidates apply every year to get into a medical school and many spend years in preparatory courses just to increase their chances in this ruthless competition. Simultaneously, the wages of doctors are some of the highest in the country (highest average wage of all professions[980]), as municipalities and the private sector compete fiercely to fill their positions with the limited number of doctors. This is clearly not a market balance wage,[981] as potential supply – individuals willing to do such work and capable of acquiring the required skills – by far exceeds demand with that wage.

One common argument for restricting university places is that it is a waste of public resources educating people into potential unemployment. But following this logic is exactly what causes constant polarization of income differences.[982] As medical services are largely public

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979 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

980 Salokorpi, Jussi & Tebest, Teemo, "Lista 170 ammatin palkoista: Lääkärit johtavat joukkoa", YLE, 8th Apr 2014, cited 18.4.2014, http://yle.fi/uutiset/lista_170_ammatin_palkoista_laakarit_johtavat_joukkoa/7179565

981 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

982 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

expenses in Finland – public services or subsidized – the rip-off wages paid to doctors waste public funds much more than educating e.g. 20-30 % more doctors would. And the relevant question arising once again is why does oversupply of a type of labor cause unemployment – instead of under-employment?[983]

Another common argument for restricting supply is that higher wages ensure attracting better talent into a critical profession and therefore improves the quality of medical services. But the assumption that the level of pay (especially higher fixed pay, instead of incentive or bonus systems) would be the best motivator for doing one's work well is very much contrary to what research results suggest. People do things better when they are passionate about what they do, consider it a calling and regard the work intrinsically rewarding in itself than when the motivation is "external". (Deci & Ryan 2008; Pink 2009; Rock 2008)[984] [985] Artificially maintained higher wages increase the proportion of students and employees that are mainly attracted by the financial reward, and this together with an application process that neglects motivation or psychological fit is therefore likely to *decrease* medical service quality – and employee work satisfaction. It is quite certain that if the wages were at an equilibrium rate, we would get more doctors who really enjoy helping people and solving medical cases.

Currently, many people apply to study for a medical degree mainly for the secure income and the social status. The author has even met people who want to become doctors just so that they can then afford to spend time doing other things they are passionate about! This and other forms of downshifting – which doctors can afford to do due to their income security and strong negotiation position granted by the doctor deficit – further increase the doctor deficit. Note that this kind of downshifting would be completely OK if education positions weren't limited. The policies suggested in this book aim at facilitating such downshifting for everyone, regardless of profession, as that would also best facilitate economic growth and structural adjustment.[986] If the labor deficits and higher wages were caused by the limitedness of people able and willing to learn the required skills as well as the willing and able people's desire for more free time, that would be a fair income difference. However, restricting the amount of suppliers causes the wage mechanism, perversely, to have the exact opposite effect than it should: Higher wages *decrease* the supplied amount of medical work. The progressive taxation in Finland further increases the marginal utility of additional free time.

The real reason labor unions insist on limiting supply is to maintain the wage levels and superior bargaining position of doctors – making collective bargaining by strike threats unnecessary.

2.2.3.3 Wage Regulation by the Government – All or Nothing

In short:

- *Minimum wages set in labor legislation or collective agreements do not guarantee anyone such an income, but merely make it illegal to give anyone work (buy labor from them) below that wage. The result is usually, ceteris paribus, more unemployment and income insecurity – as some people are easily blocked completely outside the labor market.*
- *Wage regulation also maintains a higher balance interest rate (when not at the zero lower bound) increasing the income share of capital.*

> "Further, [Minsky] argued that in the absence of tight full employment, the true minimum wage is zero;..." – L. Randall Wray (2007, p. 13)

In addition to labor unions bargaining collectively for their sector, also the government can control wage levels by for example setting a minimum wage. Could this be a more fair way of reducing income differences?

Unfortunately, manipulating wages or any prices almost always causes an imbalance in supply and demand, which in the case of a labor market where work is quantized into jobs means increased unemployment in the line of work in question. The main purpose of paying people for work at all is to encourage them to choose activities that are needed more than they would choose to do voluntarily and to acquire highly needed skills – not so much to encourage them to work more.[987] When this function is tampered with, nothing guarantees that people

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983 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

984 Also: "SCARF Model – Influencing Others with Dr David Rock", viewed 4.3.2013, http://www.youtube.com/watch?v=isiSOeMVJQk#

985 Pink Dan, 2009, "The puzzle of motivation", TED Talk, viewed 8.5.2013, http://www.ted.com/playlists/60/work_smarter.html

986 See: "2.3.4 Supply and Demand Could Best Match Earning Opportunities – Just Fix the Imperfections", "3.1.2 Other Scapegoats for the Mystical Growth Dependence" and "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

987 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

educate themselves for professions that have demand for employees, causing labor deficits in some industries and unemployment in others. This is called *structural unemployment* and an increase thereof is one reason why the Non-Accelerating Inflation Rate of Unemployment (NAIRU) often rises when wages are manipulated. What makes wage regulation further raise NAIRU, is that when oversupply becomes less effective at lowering wages in the sectors in question, more oversupply (unemployment in the current system) is needed to compensate for labor deficits (causing upwards wage pressures) in other sectors in order to prevent inflation from getting out of hand. Also the fact that some employees are not hired simply because their productivity does not make it profitable to do so at the minimum wages – so-called classical unemployment – increases the NAIRU.[988]

A minimum wage practically only bans people from working and employers from hiring (or having work done) below a set wage – it does not guarantee people this wage.[989] Minimum wages can therefore prevent some people from participating in the labor market altogether – against their will. For example, many people born with slight handicaps, such as Down syndrome, would often really want to do something useful for the society and be paid for it – even if they were financially supported by the public sector or their relatives. Being able to participate and contribute and hence feel valuable and useful to others is a natural need and a significant component in people's self-esteem and happiness.[990] The price paid for a person's work is not a measure of the full value of the work, and even less a measure of someone's value as a human being.[991]

Ironically, in terms of the traditional "class conflict" between "labor" and "capital" (which e.g. the Nordic corporatist[992] welfare state has artificially created), minimum wages and collective agreements that prevent downward wage flexibility actually play very well into the game of "capital". As explained in "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money", aggregate supply and demand determine inflation and the central bank adjusts the interest rate to keep aggregate supply and demand in balance. If wages cannot adjust downwards in sectors with an oversupply of labor, then the interest rates will have to be held higher to prevent upwards wage pressures in labor deficit sectors from pushing up inflation. And as explained in "1.1.8 Labor and Capital (and Land?) – The Factors of Production", the interest rate (the yield of the risk-free investment option) determines the profit requirements of all capital investments. Hence, capital takes a bigger share of the added value with wage regulation (and social support[993]) in place than it would without it. In a non-monopolistic market with a central bank keeping inflation stable, lowering wages in some sectors means a transfer of wealth to employees in other sectors – not from labor to capital.[994]

However, in the current situation, removing wage regulations and social support schemes would undoubtably cause massive deflation, as fierce competition for limited jobs would drop the cost of unskilled labor close to subsistence level also in the developed world – a "race to the bottom." This is what Eggertsson and Krugman (2011, p. 19-20) called the "paradox of flexibility".[995] So, with the zero lower bound in place[996], wage regulation is preventing a massive *wealth transfer* from debtors to creditors,[997] (the expectation of which would also push up the profit requirements of all other capital) and the fall of the economy into a deeper recession. But with no zero lower bound, or when the economy is not at it, wage regulation and social support are an *income transfer* from labor to capital. (This is a good example of how *causality* always depends on the comparison set.[998])

The most fair, efficient and effective way to prevent the abuse of labor is to *give people options*.[999]

Another common argument for controlling wages is maintaining national price competitiveness. Boosting a country's economic growth by artificially maintaining competitiveness and current account surpluses instead of letting changing wages and currency exchange rates turn higher productivity into higher buying power is not a globally sustainable policy.[1000] But also, preventing wage adjustments in the other direction has damaging effects – especially when the country does not have its own currency, as can clearly be seen in the case of Greece

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988 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

989 On a "true minimum wages" that does guarantee this income, see: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

990 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness.

991 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

992 See: "3.2.3 Unionization and Strikes".

993 See: "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics".

994 See: "2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'"

995 Although Eggertsson's and Krugman's New Keynesian models derive the reduced demand to result from dropping nominal income, I'd rather argue that it is a result of the rising real interest rate due to deflation (wages falling).

996 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

997 See also: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives" and "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

998 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

999 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1000 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage" and "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

under the euro.[1001] If wages weren't controlled (or wage levels sustained with high government deficits) they would adjust to match productivity and thus keep the countries sufficiently competitive – even in the absence of their own currency.[1002] When a country has its own freely floating currency, exchange rates prevent total ("absolute") competitiveness from declining in the long run. Raising average wages only causes inflation locally and devaluation of the currency compared to others.

2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics

In short:

- *When manipulating wages or controlling supply and demand fails, the alternative is to take money directly "from the rich and give it to the poor" by means of progressive taxation, social support schemes and other forms of government paid entitlements and benefits.*
- *Such transfer payments easily cause incentive traps that discourage productive work and training oneself for (and moving after) professions in which there is a labor deficit, hindering structural adaptation. The persistent structural imbalances can cause income differences to further polarize, often partly offsetting the intended balancing effect of the transfer payments.*

If payments for different jobs cannot be changed, one option is to pay people more for doing nothing. Such payments have been a part of the backbone of the Nordic welfare state model, following John Rawls' theory of "justice as fairness", which justifies giving to the ones worst off by taking from the rich – in the fashion of the legend of Robin Hood.

This does not cause an imbalance in the supply and demand for different kinds of work, but unfortunately doing nothing can also be regarded as a choice of occupation and paying people more for it makes other options less tempting. Thus we easily end up with "motivational unemployment" – also called "welfare bumming" – causing situations where people refuse to work (or find excuses not to or make themselves less tempting recruits purposefully) even when earning opportunities would be available.

Of course, such support limits how low wages can be dropped in the most low-paying jobs, and has the benefit of preventing complete slave labor,[1003] but because the transfer payments result in a need for more taxation and because currently people are very much taxed according to their income,[1004] this easily results in an incentive trap and a chain reaction where less and less people are willing to work at all. The dilemma is that raising social support causes this "welfare trap" of more people choosing it over work (voluntary unemployment), while lowering it causes more economic insecurity, which increases saving, which causes further involuntary unemployment.

What sense does it make to keep part of the population working full-time and supporting a part that is not participating at all? Of course, if we only look at how things can get done with the least total amount of work hours (not necessarily as total experienced cost), this can be achieved by only the most productive working. But the most productive would hardly consider this fair, nor would it encourage anyone to *become* more productive. Also, the ones not getting to participate – regardless of whether their unemployment is voluntary or not – are usually not happy either, as they feel worthless due to an inability to contribute to society and affect their own income level. As a result of the deterioration of their skills and drop in self-esteem, the total productive potential of the economy actually declines, significantly.

By all standards – everyone's welfare and life satisfaction, incentives for productivity, structural adaptability and the stability of the system – it would make much more sense to distribute *earning opportunities* according to people's needs, instead of distributing unearned income.

The dilemma of the security providing function of social support and problems with suggestions like a citizen salary are discussed in more detail in: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

1001 See: "3.1.6.2 Sticky Trade Imbalances".
1002 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities".
1003 See Iron Law of Wags in: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1004 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'

In short:

- *Marxist socialists and more recent advocates of a "resource-based economy" suggest abandoning a market economy altogether and meeting people's needs with central planning.*
- *The biggest problems with this are the immeasurability of people's needs, the lack of a motive for participants to balance the supply and demand for different kinds of skills, little individual possibility to affect one's own situation and further one's own goals (i.e. bad "game mechanics") as well as the general fragility of centralized systems.*
- *A market economy = supply and demand economy = "resource-and-values-based economy". A "resource-based economy" is only a partial "supply economy".*

"The error of thinking that you know exactly where you are going and assuming that you know *today* what your preferences will be *tomorrow* has an associated one. It is the illusion of thinking that *others*, too, know where they are going, and that they would tell you what they want if you just asked them. Never ask people what they want, or where they want to go, or where they think they should go, or, worse, what they think they will desire tomorrow. … [Steve Jobs's] modus was that people don't know what they want until you provide them with it." – Nassim Nicholas Taleb, Antifragile (2012, p. 170-171)

"If I'd asked my customers what they wanted, they'd have said a faster horse." – Henry Ford

"Man truly achieves his full human condition when he produces without being compelled by the physical necessity of selling himself as a commodity." – Che Guevara, Man and Socialism in Cuba

"One Ring to rule them all, One Ring to find them,
One Ring to bring them all and in the darkness bind them."
– Part of the "One Ring" poem by J. R. R. Tolkien

In the Marxist ideal, people contribute purely out of their will to do so and the knowledge that they are working for the common good. In the more freshly branded version of communism exemplified by The Venus Project headed by Jacque Fresco (The Zeitgeist Movement, ZTM, as its "activist arm") the idea is that, with today's technological productivity, we'd only need a few percent of the population to work in order to provide us with the necessities of life. This number is expected to be fillable with volunteers.

In practice, the trouble is that people's preferences in types of volunteering would not match the actual needs of the system. Also, people would want to "strive for more" in areas where they can see their achievements, and some form of unofficial private trade would undoubtably emerge within the system – like it did in the Soviet Union. Those who, selflessly, choose to compromise by doing something for the society that is not their first or second option would not consider it fair that the others are leeching and doing what they most love or something from which they get additional personal benefit, including more personal image gains. Even if plumbing would be more vital for keeping the system running, one is still likely to gain more popularity with more visible and emotion-stirring things, such as being a rock star or other artist – especially in the kind of value base that the Zeitgeist Movement seems to advocate.

A price mechanism – or some other kind of incentive system – is needed to match the supplied and demanded amounts of types of goods and labor.[1005]

On a larger scale, such non-voluntary communism always requires some sort of force or threat – and a heavy control and surveillance machinery or some very nasty peer supervision initiatives – to get people to make "uneconomic trades for their work" instead of creating market systems of their own. The Soviet Union eventually resorted to dealing out death penalties for such "economic crimes".

1005 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

With a small community of up to a few hundred or so like-minded people, this kind of system might work, as people see the results of their work and can have fairly empathic relations with everyone in the system. But without any private ownership, taking care of common things and cleaning up others' mess quickly becomes a very demotivating game when the society grows. People find fairness – and especially fair exchange – intrinsically motivating.[1006]

Also, no computer system determining what the society produces and invests in (e.g. builds or researches) could take into account the relative value we attribute to different things – both compared to each other and the resources they require. And we understand others' preferences even less than our own.[1007] This is why we need a trade system: to ensure responsibility and that we only produce things that others really value. As a bonus, it encourages us to try to become more and more useful to others and for the development of the whole society.

A "supply and demand economy" actually *is* a "resource- and values-based economy", whereas "a resource-based economy" is purely a "supply economy". It does not take into account the complexity and immeasurability of people's values.[1008] It assumes that these can be asked with a survey or questionnaire, but the trouble is that this would not encourage anyone to take into account the resources required to produce those goods – and especially not to compare the (subjective) value of the product to the value of the alternative uses for those resources. People cannot put a "number" on their preferences unless they have to choose between different alternatives under some form of scarcity.

Peter Joseph, the initiator of The Zeitgeist Movement – the "activist arm of the Venus Project" – has a very idealistic view of people as rational beings who know what they want and need. His accusation is that economics assumes people to be completely irrational creatures[1009] – when the truth is quite the contrary. Neoclassical, Austrian and most mainstream economics specifically make the dangerous simplification – the same one Peter Joseph makes – of assuming rationality or at least conscious goal-orientedness ("the teleological fallacy" (Taleb 2012, p. 170)) in human action. The truth would be far closer to humans being completely irrational beings who act according to habits, feelings and other subconscious mechanisms resulting from conditioning and somatic markers. People merely justify their actions through "logic" in retrospect – and even then fall victim to the assumptions in their languages.[1010]

This is also one aspect making the objective of "abundance" problematic. Under abundance, people are not forced to make choices, which makes assessment of the relative values of goods quite difficult. Value – from one perspective (Mises 1912, p. 45) only exists in the valuation process of comparing alternatives. If this were the whole truth, we would experience no value in a state of abundance. Of course, "value" in this case refers to exchange value – that mainly reflects people's choices – and the author of this book would agree that people can *appreciate* things[1011] even when they are not scarce: I can stop and appreciate the refreshing breath I inhale, even without a recent comparison point of less fresh air. However, such a point of comparison would significantly add to the experienced value[1012] of the breath and many people easily "forget" to engage in such "appreciation processes" when they don't have to do so. In the Western world, many of us practically live in "abundance" – at least many people in developing countries and our ancestors from 200 years ago would call it such. And are people today significantly happier or more satisfied with their lives than people 200 years ago?[1013]

Even if we could appreciate things without scarcity, "abundance", as in "absence of scarcity", essentially means "excess", i.e. waste. An efficient economic systems aims at eliminating waste – not producing any more than is needed and not using any more resources than is required for that production. The identification and elimination of waste is at the core of for example the "lean production"[1014] philosophy originating from the Japanese Toyota corporation.

And finally, one big pitfall is the assumption that a centralized system would provide a secure and stable

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1006 "The brain science is very clear here: A fair exchange activates the reward circuitry. An unfair exchange generates a danger response." – 5:48->, Rock 2008, and "SCARF Model – Influencing Others with Dr David Rock", viewed 4.3.2013, http://www.youtube.com/watch?v=i-siSOeMVJQk#

1007 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

1008 As Jacque Fresco says: "The things I'm talking about are very different. They have nothing to do with the opinions of people. They have to do with the carrying capacity of the Earth." – 9:30->, "The Venus Project | Ottica Zero | Documentary Short | Jacque Fresco", viewed 18.6.2013, http://www.youtube.com/watch?v=1O2xyY-6JdfA

1009 "You see, at the core of the economic calculation problem is the argument that we are completely irrational. That we can't possibly be organized in a way that is structurally efficient. We are too insane, essentially. There for we have to have a general economic anarchy to organize our society and there is no other way around it." – 14:59->, Joseph, Peter, "Culture in Decline | Episode #2 'Economics 101'", video on YouTube, viewed 22.3.2013, http://www.youtube.com/watch?v=KEC0GT_8I_1

1010 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "5.1 Why We Don't See the Problems for What They Are".

1011 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

1012 (btw, gotta go outside and have such a breath right now!)

1013 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

1014 Holweg, Matthias, 2007, "The genealogy of lean production", Journal of Operations Management, vol. 25, iss. 2, pp. 420–437.

basis for a society – or any system at all. The truth is that the nature of nature is one of constant chaos and lower-level failures and that all kinds of centralized systems tend to be extremely fragile in the long run.[1015] (Taleb, p. 21 & 96-97)

Lurking behind the ZTM is an unquestioningly romanticized view of nature (combined with an "appeal to nature"[1016]): The idea is that nature is a harmonious system, and from this many conclude that peace is the natural state of things and that all chaos, pain, destruction as well as our competitive tendencies and insatiable human wants and desires (a.k.a. "greed"[1017]) are simply the fault of perverted, human-made institutions. This is similar to how some lines of Christianity presume that sin is a human trait (or one induced by the devil) in an otherwise perfect world made by a God wanting nothing but peace and harmony.[1018]

In reality, nature – and every species and ecosystem in it – is antifragile precisely because of constant destruction and merciless chaos. (Taleb 2012, p. 54) When species are not struggling to stay out of reach of predators, they are multiplying fiercely and competing with their cousins for limited food. In nature, in a state of "equilibrium", there is always death, brutal torture and starvation. Although individuals might cooperate very empathically and caringly with their herd, pack, flock or other larger evolutionary unit, these units often have little empathy or mercy for their prey or competitors invading their territory when resources become scarce. Some species live in harmonious symbioses with other species, but such peaceful relationships don't remove the ruthlessness of others and the whole ecosystem.

There are multiple clarifying example of the apparent strength and inherent fragility of centralized systems embedded in fiction as well. Sauron's massive armies would serve him little good if the one ring into which he had manifested most of his powers were destroyed. And one might have expected the Sith of the Galactic Empire to learn from its first attempt with the Death Star that putting too much firepower in one package is not a very robust strategy – and maybe to practice some *divide et impera* for a change (the Death Swarm? Death Star Dust?). In general, anytime "a weakness" is spotted in some formidable and seemingly superior enemy, it is some central control hub, portal or energy source, or a systemic similarity in the enemy's agents or systems.[1019] Variance and decentralization would have avoided the emergence of such weaknesses .

In order to be adaptable and robust to both external shocks and human error (individual humans, too, are volatile), our societal system needs to mimic this kind of evolutionary, diversified, modular and fractal system in some way. And the system where companies – competing organization forms – fight for their own survival and "starve to death" (go bankrupt) so that individual humans won't have to, is quite an ingenious solution for achieving this creative destruction (as Schumpeter called it) in a humane way.[1020]

For more on why we need a market economy, see: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

However, socialism can work fairly well *within* a market economy, on a voluntary basis, in small scale (in groups of less than 200 people). This can be seen quite well in many voluntary organizations such as activist groups, student associations and hobby clubs.

2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'

In short:

- *Many activist groups rage against the current monetary system, which seems to give private banks control over "the money supply" and campaign for giving the government direct control over available liquidity.*
- ***Such views tend be supported by overreliance on the Quantity Theory of Money and on the abilities (e.g. impartiality, dexterity in decision making and room for adjustments in budgets) of democratic***

1015 4:55->, "Nassim Taleb Talks Antifragile, Libertarianism, and Capitalism's Genius for Failure", Reason TV, viewed 22.3.2013, http://www.youtube.com/watch?v=ehXxoUH1AIM

1016 "Appeal to nature", Wikipedia, article, cited 18.4.2014, http://en.wikipedia.org/wiki/Appeal_to_nature

1017 The many meanings of "greed" are discussed in more detail in this book's sister, The Guilt Economy.

1018 Jacque Fresco admits that not everything in nature is "good" (3:30->, http://www.youtube.com/watch?v=t7PZVYG57UQ), but dismisses the inherent competition present in nature (0:20->, http://www.youtube.com/watch?NR=1&v=RVOPkGAtt48). Peter Joseph is more clearly a nature worshipper.

1019 This homogeneity is what makes seedless, cloned agricultural plants (like many species of bananas and grapes) at threat to diseases. And the established diversity of the genome is what allowed the invasive rabbit population in Australia to survive the attempts to eradicate it with the myxoma virus and the rabbit calicivirus. (See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'")

1020 See: "1.1.9 Companies as Competing Organizational Forms".

governments.

- ***In the current system, the amount of money is not so much determined by banks (who merely price and manage risks), but people's and companies' desire to borrow (take on more debt). And the quantity of money is not as decisive a factor macroeconomically as is commonly assumed.***

"Now, if your perception's much worse than your reality, what on Earth are you doing trying to change the reality?" – Rory Sutherland, Perspective is everything[1021]

"Democracy" is also a very popular mantra for critics of our credit money system, which allows private companies to "create" liquid credit. In their view, the creation of money should be put back into the hands of a democratic government. Frederick Soddy suggested already in 1926 that the government should take direct control of the money supply and control inflation with fiscal policies: by "printing more money" when the general price level declines and taxing more when the price level rises. This idea has now been resurrected by many movements globally – as some examples: the American Monetary Institute,[1022] the British Positive Money initiative (Jackson & Dyson 2013; Dyson 2012) and the Money Reform Party as well as the "97 % Owned"[1023] and "The Secret of Oz"[1024] and quite a few smaller individual projects.[1025] [1026] Recently, similar ideas have been contemplated and supported by more "mainstream" economic commentators like Martin Wolf[1027], Paul Krugman[1028] and John H. Cochrane (2014).

One way to prevent banks from "expanding credit" – i.e. "creating money" – would be to set 100 % reserve requirements of government-issued money. One scheme is the "Chicago Plan" suggested by Irving F in 1936. Banks could not create new liquid deposits would only be able to make loans matching the amo that they have as reserves from shareholder investmen savings accounts and other long-term credit. This w significantly increase the amount of government i money needed, as private credit could no longer be for transactions or to satisfy people's liquidity prefere Benes and Kumhof (2012) insist that this governm issued money is not government debt and that – o contrary – the banks having to borrow significant am money from the government would bring in lots of n to the government.

"In this context it is critical to realize that the st reserves, or money, newly issued by the governm is not a debt of the government. The reason is fiat money is not redeemable, in that holde money cannot claim repayment in something than money. Money is therefore properly treat government equity rather than government which is exactly how treasury coin is currently tr under U.S. accounting conventions." (Benes & Kum 2012, p. 6)

I strongly encourage Benes and Kumhof to revisit M Mitchell-Innes's Credit Theory of Money or any wo on Modern Monetary Theory.[1029] Government m money *is* redeemable as settlements for taxes. As all credit money is ultimately backed by the governme value is based on the government's ability to obtain for itself, i.e. collect taxes. The more the governme collect taxes, the more "redeemable" government money is. Regardless of how this money is offi treated in accounting, it still behaves (i.e. it is treat the market) as if it were the government's liability.

A vast amount of liquid government credit on the m not backed by anything else, is not on a very co basis for a currency. If this money is printed to be banks (as the Chicago Plan suggests), then of cou government has this credit from banks to back up its but then the banks holding these reserves of gover money becomes trivial, as the two debts cancel each out: The bank holds government credit in the fo money and the government holds bank credit in the of this debt from the bank. It makes much more sens the bank only holds enough of government reser cover for its needs to clear withdrawals and transf other banks – as is done now.

The 100 % reserve requirement would only have the of allowing the government to set a limit on the

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021 16:28->, Sutherland, Rory, 2011, "Perspective is everything", TED alk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perpective_is_everything.html

022 "Intro to Money Reform", American Monetary Institute, cited 4.5.2014, http://www.monetary.org/intro-to-monetary-reform

023 "97 % Owned – Economic Truth Documentary, Queuepolitely cut", ocumentary, viewed 10.9.2013, http://www.youtube.com/watch?v=Xch1Dex4Yo

024 Still, Bill, "The Secret of Oz – Winner, Best Docu of 2010 1.09.11", documentary viewed 10.9.2013, http://www.youtube.com/atch?v=swkq2E8mswI

025 Searle, Robert, "Transfinancial Economics", P2P Foundation, cited .5.2014, http://p2pfoundation.net/Transfinancial_Economics

026 Mian, Atif & Sufi, Amir, "100% Reserve Banking - The History", ouse of Debt – Economic Commentary from Atif Mian and Amir Sufi, ed 2.6.2014, http://houseofdebt.org/2014/04/26/100-reserve-banking-the-history.html

027 Wolf, Martin, "Strip private banks of their power to create mon", Financial Times, 24th Apr 2014, cited 10.5.2014, http://www.ft.com/ns/s/0/7f000b18-ca44-11e3-bb92-00144feabdc0.html

028 Krugman, Paul, "Is A Banking Ban The Answer?" New York Times The Opinion Pages, 26th Apr 2014, cited 2.6.2014, http://krugman.blogs.

1029 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/F Wealth".

amounts of liquid credit in the economy. Such a fixed quantity of money was probably suggested by Fisher (in his Chicago plan) because it would give the interest mechanism he theorizes in his Theory of Interest at least some chance to work. (This is yet another example of how desperately people try to find proof for the truths of which they've become fond and make the world work like they have previously assumed it works, instead of changing their assumptions.[1030])

However, this would not be enough to provide a working market interest rate mechanism, as the conditions of (1) a constant circulation velocity of this "full money"[1031], of (2) all debts being repaid and (3) of "clearing the market" (Fisher 1930, p. 44-45) – that all "saved" money is lent out – would also have to apply. And these are much harder to enforce. There is no guarantee that people will be able to pay back their loans at all (due to the possibility of long-term unemployment or death) and, also, such a monetary system does not facilitate negative interest rates if that's what "markets clearing" would require – as it might occasionally (such as right now).[1032]

Fisher himself noted after the 1930's financial crisis that the assumptions of markets clearing and that all debts will be repaid are not realistic assumptions and acknowledged the possibility of debt defaults.[1033] And even if markets were "cleared" and thereby the quantity of liquid credit ("money") people were holding remained a constant, there is nothing that says that this money should keep on exchanging hands at the same frequency[1034] (that it should maintain its circulation velocity – i.e. that the buffers of money people want to hold would have a fixed (or even a linearly changing) proportion to their income and consumption. People's demand for liquidity (their liquidity preference[1035]) can vary significantly and very rapidly due to e.g. economic insecurity resulting from shocks or fears of hyperinflation or deflationary spirals. Thereby, interest rates would not automatically keep aggregate supply and demand in balance or ensure that debtors have the chance to pay their debts back. Additionally, trying to control aggregate demand (for labor) by controlling liquidity is very ineffective, as can be seen with recent attempts of quantitative easing.[1036]

To compensate for inflation, interest rates should correlate positively with the *inflation rate* – or assuming it succeeds in keeping inflation stable, correlate positively with other factors causing inflationary pressures. The Quantity Theory would suggest that inflation should correlate negatively with the price level: a drop in the quantity of money should both lower the price level and raise interest rates, as reserves for lending become more scarce. But in reality, under a gold standard, interest rates are strongly positively correlated with *the price level*, which is referred to as Gibson's Paradox.[1037] This is yet another piece of evidence of the fact that the Quantity Theory has always been a rough approximation at best[1038] and that the market interest rate mechanism with a "commodity currency" of inelastic supply lags too much behind to balance aggregate supply and demand in time. Keynes's interpretation is likely to be quite close to the truth:

> "I think that the market-rate of interest, as measured by the yield on long-dated securities, is very sticky in relation to the natural-rate of interest." (Keynes 1930, p. 203)

> "When long-period movement in the natural-rate of interest is in progress, there is, therefore, a prolonged tendency for investment to fall behind saving when this rate is falling because the market-rate does not fall equally fast, and to run ahead of saving when it is rising because the market-rate does not rise equally fast. Since the market rate lags behind the natural-rate, less than the right degree of stimulus or deterrence is being applied to the rate of investment." (p. 204)

> "If the market rate of interest is in the same direction as the natural-rate of interest but always lags behind, then the movements of the price-level will tend, even over longish periods, to be in the same direction as the movements of the rate of interest." (p. 206)

> "Moreover, the evil is cumulative. For savings in excess of investment are wasted and do not materialize in any *net* increase to the wealth of the world. Thus, Profit Deflation not only holds the market-rate of interest above the natural rate, but, by retarding the growth of wealth, it holds the natural rate itself at a higher level than it would stand at otherwise." (p. 206-207)

1030 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "5.1 Why We Don't See the Problems for What They Are".
1031 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
1032 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1033 " It is as absurd to assume that, for any long period of time, the variables in the economic organization, or any part of them, will "stay put", in perfect equilibrium, as to assume that the Atlantic Ocean can ever be without a wave." (Fisher 1933, p. 339)
1034 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
1035 See: "Sidenote Box 11BA: Keynes's Liquidity Preference Theory is Outdated".
1036 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".
1037 "Gibson's Paradox", entry, Investopedia, cited 21.7.2013, http://www.investopedia.com/terms/g/gibsonsparadox.asp
1038 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

It might be a valid argument (raised e.g. by Post-Keynesian economists and often included in plans to resurrect the Chicago plan or bring monetary policy under more democratic control) that it doesn't make sense for the government to pay the private sector interest for having to borrow from it or through it (although making more of the credit held by the private sector illiquid is likely to reduce instability and risks of hyperinflation[1039]). But removing this requirement and allowing more direct government funding by the central bank does not require enforcing a 100 % reserve requirement for banks. Also, it is noteworthy that the real interest on government debt could be negative and therefore a source of revenue rather than a cost[1040] and that even if the government issued more central bank money instead of selling bonds, it would be hard to induce banks to hold these central bank reserves (at a cost) without paying interest on them.[1041]

It is also misleading to say – as advocates of "debt-free money" do – that "private banks control the money supply" in our current banking system.[1042] In reality, it is us, individual borrowers, who control it. Banks only evaluate risks of different loans and determine the prices for these risks – the interest at which they are ready to make the loan. As banks try to maximize their profits, they will make any loan that they deem worth the risk. Fundamentally, the money supply is determined by consumers' demand for loans – how much they are willing to be in debt at what interest rates.[1043] If people did not have the risk of losing their income completely, there is no reason a bank should not give that person a loan – especially to buy relatively stable, real assets with good liquidation value (such as real estate) with high deposits.

In the solution of the "Positive Money" team – like in Frederick Soddy's suggestion – the newly created money would not be lent to banks but given to the government to spend. (Jackson, Dyson & Hodgson 2013, p. 18) This differs from the alternative of merely increasing or decreasing liquidity, as it also involves a fiscal component: Money would be "created" by increased deficit spending and retracted through taxation or budget cuts. Deficits have a more direct effect on aggregate demand (and hence inflationary pressures[1044]) than simply an increase in liquidity, and controlling inflation with fiscal policies instead of central bank interest rates would *theoretically* be an alternative. In practice there are a couple of major pitfalls.

Firstly, in the cases of democratic control, a democratic government is (1) not fast enough to react to price index changes or inflationary/deflationary pressures and (2) not impartial enough to be trusted to be able to cut expenses sufficiently.[1045] And when the government cannot be *trusted* to react fast enough, this gives much more room for the private financial market to affect inflation, which increases speculation and makes inflation even more volatile and harder to control. These are the main arguments for an independently operating central bank in charge of inflation stability (e.g. Blanchard et al 2012, p. 11).

The Positive Money solution solves this with an independent "Money Creation Committee" – much resembling our current central banks, which would not be directly democratically governed although its mandates could be changed by the parliament. (Jackson, Dyson & Hodgson 2013, p. 18) However, secondly, even in this case, controlling inflation purely with fiscal policies is very hard because of the small room for slack in government budgets – in both expenditure and taxes. There is of course upward room for deficit spending, but most government expenditures is (or should be[1046]) useful and necessary and it makes little sense to stop paying salaries to doctors or the police – or even halt infrastructure investments – just to stop inflationary pressures.

And cutting costs is often not enough. If people have gathered large amounts of liquid savings due to persistent income insecurity and speculation on deflation (resulting in reduced demand which has been met with more "money creation" to facilitate this saving) and this insecurity is suddenly relieved to be replaced with fears of hyperinflation, there might be a need to tax trillions off the market within weeks to prevent those fears from becoming reality. More on this difficulty in "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs". In the Positive Money solution, the MCC would additionally lack the ability to raise interest rates (which a central bank could do) to increase the private sector's desire to continue holding on to their savings.

Unlike the quantity of government issued (spent) money, the interest rate can be changed fast and even significantly when necessary. Of course its full effects (on real investment, output, inflation/deflation pressures etc.) come at a delay, (Gruen et al 1997, p. 3-4) but when the

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1039 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".
1040 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash" and "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".
1041 See: "Sidenote Box 2252A: The Actual Policy Tools".
1042 See e.g.:
– "97 % Owned – Positive Money Cut", documentary, viewed 12.12.2013, http://www.youtube.com/watch?v=d3mfkD6Ky5o &
– Still, Bill, "The Secret of Oz ", documentary, viewed 3.3.2013, http://www.youtube.com/watch?v=swkq2E8mswI
1043 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".
1044 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1045 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
1046 See: "3.1.8 Public Sector Inefficiency".

policy is credible, it can change future *inflation expectations* almost immediately.

Also, in the PM solution, the parliament can tell the MCC to abandon the objective of price development predictability. (Jackson, Dyson, & Hodgson 2013, p. 18) Here the Positive Money team, like Post-Keynesians and New Keynesians, downplays how unexpected changes in the price level are immediate, unearned wealth transfers between debtors and creditors,[1047] and speculation over such shifts makes the whole economy less stable.

The logic of most advocates of a more direct public control of the amount of money is based on the idea that money acts like a commodity with its own supply and demand. From this follows also an excessive reliance on the Quantity Theory of Money – that inflation can be controlled effectively by controlling the quantity of money – the amount of liquidity.[1048] While e.g. the Positive Money team has clearly figured out that money, in our current system, is endogenous, their faith in the QToM makes them conclude that it *should not be*!

Although some "full money" advocates claim to reject the Quantity Theory, this mental image is clearly visible in the policy suggestions and their explanation of market phenomena. In its most drastic form it can be seen in the Positive Money team's explanation (very close to those preferred by Austrians) for asset price bubbles: That e.g. real estate prices rise because the excess money created by banks "flows into real estate." Firstly, real estate market prices can rise without any increase in house purchases or mortgages, simply because current owners are not willing to sell at lower prices anymore. Similarly, share prices rising on the stock exchange does not necessarily mean an increase in transaction volumes. No additional money is needed for the market price of an asset to rise. The mental image of a rise in prices meaning that more money goes "into an asset" is very misleading. When you "put your money in real estate or in shares", you are actually *exchanging* your monetary savings for them. You are putting your *savings* in real estate or shares, yes, but you no longer have the *money*. You're *not "putting money in"* the things you now own.

Secondly, with equal tax treatment, the costs (profit requirements) of equity (savings) should affect the market prices of investment assets about just as much as the costs of credit (interest rates) do.[1049] The availability of loans can affect *real estate market* prices – e.g. minimum deposit requirements on mortgages *can* cause prices to drop – but this is mainly because of the privileged tax treatment of homeownership versus living on rent. If the tax treatment was equal, the real estate market would be more lucrative for (non-homeowner) investors[1050] and the availability of loans would make hardly any difference: If debt finance was unavailable, falling *deposit interest rates* would cause investors to make more *equity investments* into real estate. Real estate prices would be more affected by the profit requirement of equity, determined by savings interest rates, than the cost of debt finance.

Positive Money advocates would do well for themselves to get acquainted with Georgism, some basic corporate finance and asset valuation (net present values etc.)[1051] and how – regardless of the banking system – real estate is doomed to recurring bubbles due to the monopoly nature of land, until proper land value taxes are implemented.[1052]

The conceptual metaphor our languages use for money strongly supports this perception of money acting like a commodity and makes it very easy to demonize "creating money out of nothing".[1053] Also, our negative emotional associations with "debt" (part of the Protestant work ethic), make the idea of getting rid of debt sound very appealing. The Positive Money team has put good effort into finding out how the monetary system works[1054] – but they still don't seem to have quite grasped the credit nature of money: that it is a financial *"position,"* instead of a "possession" – purely an accounting tool. This can be seen in their dense use of the word "creation" in the context of money: 117 occurrences of "creat*" in their 37-page money reform proposal. You wouldn't talk about "creating meters" when you move away from someone, would you? Mitchell-Innes's Credit Theory of Money might open new perspectives – but also shatter their dreams of "debt-free" money.[1055] Essentially this dream could be rephrased so that they want people to have power over others – credit on them, purchasing power over their labor – but simultaneously not be liable to anyone else, i.e. not grant any power over themselves (not have debt or any

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1047 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".
1048 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money" and "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".
1049 More on the Modigliani-Miller theorem (a.k.a. "the capital structure irrelevance principle") under "4.2.2 Setting a Fee on the Government Deposit Guarantee".
1050 See: "4.3.1.3 Practical Challenges: Fair Valuation and Assessment of the Replacement Costs of Improvements and Other Owner-Created Value".
1051 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
1052 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding" and "4.2.4.9 Real Estate Bubbles".
1053 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance" and "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".
1054 "How is money really made by banks? - Banking 101 (Part 3 of 6)", video, Positive Money, viewed 19.2.2014, http://www.youtube.com/watch?v=KvpbQlQwl0A
1055 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

liabilities towards each other) – which is mathematically impossible. Any money, which is not explicitly someone's liability (for which no one is required to provide anything) grants very uncertain and unreliable purchasing power – it is essentially a constant speculative bubble.[1056]

As Ben Dyson, the founder of Positive Money (like advocates of the British Money Reform Party) says:

> "[A]ctually all we're doing is making the system work the way that most people think it already works.".[1057]

In other words, they have taken as their agenda to make reality match our language – which sounds quite backwards, but is very much what people tend to do. If you suddenly find out that things don't work the way you thought they did, the fact that they don't easily looks like a likely culprit for everything that's going wrong. This is understandable when we remember how the main function of reason and reasoning is helping people to justify their previous choices, values and opinions to themselves and others.[1058]

But how about, instead, designing a reality that would work optimally to suit our needs and adjust our language to describe that reality (and the current reality) as well as possible?

Tragically, it is easiest to get people to agree on things assumed by their languages.[1059] The Sapir-Whorf hypothesis scores! Humans-Language: 1-6.

2.2.3.7 Participatory Economics – 'Let's All Decide on Things Together'

In short:

- *Participatory economics is a more de-centralized, local approach to socialism. It is characterized by a strong objection to any kind of unequal power relations, and it supports compensation according to sacrifice. It trusts in direct democratic processes in planning production and distribution.*
- *The proposed structures don't seem to encourage creativity, productivity or making work more enjoyable, but they rather incentivize complaining and change resistance.*
- *Such communal production cooperatives can also be established within a market economy for those who prefer them.*

> "To suffer unnecessarily is masochistic rather than heroic." – Viktor E. Frankl

> "A more real difficulty is that of fairly apportioning the labour of the community among its members. There are many kinds of work, and by what standard are they to be measured one against another? Who is to judge how much cotton spinning, or distributing goods from the stores, or bricklaying, or chimney sweeping, is equivalent to so much ploughing? The difficulty of making the adjustment between different qualities of labour is so strongly felt by Communist writers, that they have usually thought it necessary to provide that all should work by turns at every description of useful labour: an arrangement which, by putting an end to the division of employments, would sacrifice so much of the advantage of co-operative production as greatly to diminish the productiveness of labour. Besides, even in the same kind of work, nominal equality of labour would be so great a real inequality, that the feeling of justice would revolt against its being enforced. **All persons are not equally fit for all labour; and the same quantity of labour is an unequal burthen on the weak and the strong, the hardy and the delicate, the quick and the slow, the dull and the intelligent." – John Stuart Mill, Principles of Political Economy (1848, Book 2, Ch. 1)**

Participatory economics (parecon) developed by Robin Hahnel and Michael Albert takes the cure-all view of

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1056 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral", "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives."

1057 12:45->, Dyson, Ben, 2012, "Fix the Money System & the Economy", Positive Money, viewed 2.4.2014, https://www.youtube.com/watch?v=Jx-9w2beoGcw

1058 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

1059 54:05->, "The idea of the Money Reform Party was that we would have this basic core issue that people would agree with." … "…to go for what you might call the lowest common denominator." – "97 % Owned – Positive Money Cut", documentary, viewed 12.12.2013, http://www.youtube.com/watch?v=d3mfkD6Ky5o

democracy a step further – into the business world and labor market. The basic idea is that decision making in companies should be more democratic as opposed to objectives being dictated by external owners and strategies being chosen and implemented by a small operative management team. It advocates the communist idea of the common ownership of the means of production. In Michael Albert's words, parecon is "[s]ocialism as it was always meant to be."[1060] (Hahnel & Albert 1992)

However, democracy is fundamentally inefficient and full of moral hazards and incentive traps: The ones making the decisions are not finally liable for them, which gives people little incentive to make careful calculations or to assess risks realistically. It easily results in interest group politics, where each party is trying to get more benefits for themselves on the expense of others – as preemptive defense if nothing else. Most easily, democracy allows imposing costs on minorities against their will. Some call it "tyranny of the majority."[1061]

Management research of course provides evidence for the motivation-enhancing effects of *empowerment* – giving individuals more freedom in how to do their work, especially in more creative industries – and responding constructively to bottom-up initiatives. But these are not to be confused with *democracy* or participatory *decision making*. *Decentralizing* decision making and allowing more autonomy to e.g. individual teams – like modern, successful gaming and other IT companies do, the superbly successful Supercell as one example[1062] – is not the same as involving a bigger number of people in centralized decision making. Rather, democracy (the latter) in management is mostly considered inefficient. Merely too large management teams (beyond 10 or so persons) can start causing trouble. Heavy decision-making processes – including ones requiring broad consensus – tend to reduce any organizations adaptability and development capability. Finding and decisively executing a clear strategy (and especially being able to turn it around fast when necessary) often needs a strong and decisive leader.

Of course, leadership that ignores others' opinions tends to make bad decision and attract more change resistance. More collective leadership is possible as well – especially in organizations with a strong and coherent ideological base granting the participants internal motivation, such as in emergent "swarms" (Falkvinge 2013). And even an assertive leader often finds it impossible to turn around an organization's culture. But clear responsibilities do often result in better decisions, more efficient executions thereof and more effective change management, as people's opinions differ and there will always be change resistance.

Even in the free market economy, there are cooperatives owned by either the employees or the clients. These are fairly common e.g. in Finland with big players in the banking and retail industries. This is of course one option for running and financing a business, and, with a successful corporate governance model, it might prove to be efficient and competitive. But the idea of *requiring* employees to own (the production equipment of) the companies that they work for makes little sense. Whoever owns something also carries the risks involved in it. Owning a limited liability company essentially *is* carrying its risks.[1063] If you put a big part of your savings into the stock of the company you work for and the company goes bankrupt or is making losses, not only do you risk losing your work but also your savings. Meanwhile, you as a single employee have little influence on how the company is run – even with democratic decision making.

It would make much more sense to diversify your savings into the shares of a number of different companies in different industries than to have "all your eggs in one basket". Of course, companies can offer their shares as a good incentive tool in their reward systems to encourage their employees to work for a common goal, and this has proven effective in many companies. But putting too much equity risk on your employees risks demotivating them seriously if the company experiences a big set back or a gloomy market outlook.

More democratic decision making is often thought of as one way to increase income security, as a democratic organization would be less rash to reduce labor. Yes, democracy is a change resistance machine (second probably only to the academic and union institutions).[1064] Some notable drivers of this change resistance are the Tragedy of the Anticommons – i.e. the difficulty to get everyone to agree – and people's bias towards avoiding losses – especially of previously achieved privileges and other benefits. And this is one of its biggest weaknesses. In addition to often needing to turn around their strategy quickly, companies have to be able to adjust the amount of labor they buy as their sales change if they are going to have any chances of overcoming setbacks and reinventing themselves. And most "responsibly" this could be done by reducing work from a large number of employees instead of firing individuals.[1065] A democratic work society would surely not increase the chances of such flexibility

1060 Albert, Michael & Hahnel, Robin, 2008, "Socialism as it was always meant to be", ZNet, cited 4.3.2013, http://www.zcomm.org/socialism-as-it-was-always-meant-to-be-by-michael-albert

1061 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

1062 Miettinen, Anssi, "Ovista ja ikkunoista", Helsingin Sanomat, 20th Oct 2013, cited 2.11.2013, http://www.hs.fi/sunnuntai/a1382163971922

1063 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

1064 See: "6.3.2 Appendix 3.2: The Challenges with Democracy" and "5.2.1 The Personal Nature and Incentive Traps of Academia".

1065 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".

occurring. When a democratically run company is eventually forced to reduce labor, it will likely do so by firing individuals, as this is in the interest of the majority who get to keep their jobs and income fully.

When things are decided on together, a surely politicized subject of debate is compensation: Who gets paid and how much? The parecon position says that people should be paid according to "effort and sacrifice". This could be seen as the labor theory of value to the second power:[1066] The more something costs – the more "pain" or inconvenience it has caused – the more valuable it is. Doesn't that sound quite counterproductive? What would this incentivize people into? Complaining, blaming and doing unnecessary and inefficient work. Anyone managing to make their own job more efficient and enjoyable would be paid less and anyone managing to make themselves the victim and seem extremely overburdened (regardless of the necessity of the work they do and how efficiently they do it) would be rewarded. This does not sound like a very good incentive system if we want to maximize total value produced and make people's work more fun and motivating. Let's remember that, in an optimal situation, all work is made so fun that hardly anyone needs to be paid for anything.[1067] Also, having fun and being happy in one's work tends to increase the direct productivity of the work: both in terms of outcome and in terms of personal development.[1068] [1069]

Compare this to an old, bitter couple who have ended up in a game of "collecting points" against each other over who "has sacrificed the most" for the relationship or the other person. In an empathic relationship, there should be no need to keep any score,[1070] but if some kind of score or playful "game" is involved, it would be more constructive and empathy-enforcing to play a game of who manages to arrange or induce things that both enjoy – rather than who manages suffer the most.

The participatory planning process suggested in the parecon model is closely related to a communist planned economy. Citizens participate annually or bi-annually in procedures where production quantities of different goods and services are decided on. How reliable can such subjective estimates really be? What incentive does any individual have to make them as accurately as possible and stick to them in their actual consumption? And would you always want to decide what to eat and wear and where to travel a year in advance? And what would this mean in terms of technological development and product innovations?

The truth is that people really don't know what they need and where they are going.[1071] Why shouldn't we give people the freedom to try providing other people with new services they might enjoy, but can't yet understand the benefits of or even imagine – i.e. to be entrepreneurial?

> "Never ask people what they want, or where they want to go, or where they think they should go, or, worse, what they think they will desire tomorrow. ... [Steve Jobs's] modus was that people don't know what they want until you provide them with it." (Taleb 2012, p. 170-171)

Participatory economics encourages a more versatile working life through "balanced job complexes", instead of full specialization. It is a valid point that even if lowered specialization may lead to inefficiency in the short run, the increased motivation and variance as well as a broader understanding of the company's processes may increase productivity and creativity in the long run.[1072] But as this is the case, providing more motivating forms of employment – and circulating employees, especially new managers, between tasks and branches – can be a significant source of competitive advantage for privately owned companies in a market economy as well. Achieving this does not require any more democracy, as long as individuals have options of how to make their living.[1073] Albert and Hahnel seem to assume that everyone considers the same kinds of tasks desirable:

> "Every economy organizes work tasks into what are usually called 'jobs' that define what tasks a single individual will perform. In hierarchical economies, most jobs contain a number of similar, relatively undesirable, and relatively unempowering tasks. But why should some people' lives be less desirable than others? Doesn't taking equity seriously require balancing jobs, or work complexes, for desirability?" ... "This does not mean everyone must do everything. It does no mean an end to specialization." ... "Each individual will still do a very small number of tasks, but some of them will be more enjoyable and some less, and some will be more empowering and some less." (Albert & Hahnel 1992, p. 49-50)

1066 See: "Sidenote Box 113A: Objective Value Theories and Morality".
1067 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".
1068 Womack, Jason W., "Why Happiness is Your Secret to Productivity", 24th Sep 2013, Entrepreneur – Inspiration Station, 30.9.2013, http://www.entrepreneur.com/article/228519
1069 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
1070 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".
1071 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".
1072 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".
1073 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

But people's activity preferences differ greatly[1074] and are also shaped by their experiences, conditions (including available alternatives) and how their social circles appreciate those kinds of tasks. Yes, in our current economic systems, there are professions many people would like to do that get paid highly and vice versa. But this only means that supply and demand aren't currently really working – because not all people are given the same opportunities and choices.[1075]

One idea behind balanced job complexes is to distribute power (or empowerment) more evenly within the organization,[1076] but this hardly makes decision making more efficient, nor anyone's job more worthwhile, as divided responsibility tends to be no one's responsibility and easily becomes frustrating (Rock 2008). Of course small expert companies can work on a very flat hierarchy, but even there responsibilities need to be clear. This elimination of clear leadership positions is how parecon attempts to get rid of the "class conflict" that communism failed to eliminate.[1077] There seems to be quite a lot of authority phobia and envy behind such ambitions – much like in anarchist communism.[1078] In reality, not everyone wants versatility or responsibility – many people like focusing and being given clear instructions.

Participatory economics can, however, be credited with pointing out many flaws in the current economic system and unrealistic assumptions made in mainstream economics (the constant disequilibrium in the labor market, exploitation of natural resources etc.). But so can The Zeitgeist Movement and many other radical critics. They, too, are unfortunately overlooking the possibility of fixing the bug causing the unsustainabilities of the market economy and "throwing the baby out with the bath water".

Another creditable factor is how the governance models of parecon acknowledge the impotence and fragility of overly centralized systems, moving a lot of democratic decision making to the local level. Democracy works much better in smaller groups of people than on the mass scale such as that of the representative democracies of nation states.[1079]

1074 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

1075 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1076 "Similarly, if we want everyone to have equal opportunity to participate in economic decision-making, if we want to ensure that formal rights to participate translates into an effective right to participate, doesn't this require balancing work complexes for empowerment?" (Albert & Hahnel 1992, p. 49-50)

1077 For why Communism, as an institution, actually does not even *want to* eliminate the "class" setting, see: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

1078 See: "2.1.3 Anarchist Communism: 'Everyone According to His Ability, to Everyone According to His Needs'".

1079 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

2.2.4 Ecological Economics – Putting Economics into the Eco-Box

In short:

- ***Ecological economics can be credited for its cross-disciplinary approach and providing new ecologically relevant key indicators for economics, but it unnecessarily demonizes economic activity and "material throughput".***
- ***It also has little useful suggestions in terms of the labor market and financial systems and often misunderstands the current credit money system – which does not follow the "laws of thermodynamics."***

"[E]cological economics is the product of an evolutionary historical development. It is not a static set of answers. It is a dynamic, constantly changing set of questions. It also advocates a fundamentally different, transdisciplinary vision of the scientific endeavor that emphasizes dialogue and cooperative problem solving. It tries to transcend the definition and protection of intellectual turf that plagues the current disciplinary structure of science. This transdisciplinary vision was the rule in earlier times, but has been replaced by a more rigid disciplinary vision in recent times."

"We believe that this transdisciplinary way of looking at the world is essential if we are to achieve the three interdependent goals of ecological economics discussed below: sustainable scale, fair distribution, and efficient allocation. This requires the integration of three elements: (1) a practical, shared vision of both the way the world works and of the sustainable society we wish to achieve; (2) methods of analysis and modeling that are relevant to the new questions and problems this vision embodies; and (3) new institutions and instruments that can effectively use the analyses to adequately implement the vision." (Costanza et al 2007, Chapter_3#gen0)

Ecological economics perceives the economic system as a system *within* the natural ecological system and thereby likes to distinguish itself from "environmental economics," which it sees as merely and add-on to mainstream economics. It emphasize minimizing material "throughput" in the economy by reducing economic activity and making it less material.

The cross-disciplinary approach including the application of thermodynamics and other physical laws to economics is admirable and a possibly fruitful starting point. There is surely a lot that other fields of economics could utilize in its ecological frameworks. However, in developing its own key indicators for the economy, it often falls into the trap of drawing careless conclusions of unbreakable causality, including demonizing economic growth in itself:

> "All economic growth increases throughput, accelerates entropy, and threatens sustainability." (Costanza et al 2007, Chapter_4#gen23)

> "Because of the inescapable laws of thermodynamics, all material growth consumes resources and produces wastes, even Brundtland's unspecified new type of growth." (Costanza et al 2007, Chapter_1#gen10)

Lately, ecological economics has seen more questioning of the unbreakability of this correlation between economic activity and ecological strain.

> "Technically speaking, economic growth is an accounting device that records changes in the volume of human exchanges and interactions. Its impacts depend very much on the ratio of value produced per unit of energy consumed and on the institutional framework within which human interactions occur, particularly institutions related to property rights and the provision of public goods." ... "What is significant in this array of statistics is the variability in the relationship between energy use and growth of GDP. This demonstrates conclusively that there is no necessary connection between the two. The linkage between economic growth and damage from energy use is thus institutional and based on political choices; it is not a purely natural relationship. If energy taxes had long ago been set high and raised rapidly enough to offset the effects of higher incomes, capital could have substituted over time for energy in many contexts, and income growth could have continued." (Cobb C 2013)

For more on this debate over the "badness" of economic growth, see: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

The major weakness of ecological economics is that it provides hardly any theory of property rights or solutions regarding the labor and financial markets. In discussing monetary issues, it often falls into the popular trap of demonizing the current credit money system where private banks are allowed to "create money out of nothing" and concluding that charging interest creates a requirement for growth or inflation (the "perpetual debt hoax"[1080]):

> "Whoever borrowed it into existence must pay back what he borrowed plus interest. Thus, a requirement for growth (or else inflation) is built into the very existence of our money supply." (Daly & Farley 2010, p. 290)

> "Interest-bearing loans require that more be paid back than was initially borrowed, however, demanding a constant increase in the money supply. The net result of simultaneous processes of money creation and destruction determines the net growth of the money supply." (Daly & Farley 2010, p. 293)

> "Money would seem to be an excellent illustration of the fallacy of misplaced concreteness; since we so easily view it as something that is valuable in itself, when in fact it has no 'use value' at all; so I asked Daly to draft a chapter on it. His reply was that nobody knows what money is; so he was not ready to attempt such a chapter." ... "Daly taught me that banks can lend the same money over and over again and that in making each loan the banks increases the money supply." ... "Unless additional money is pumped into the economy through additional loans, so that the money supply is growing, there will not be sufficient money in circulation for all borrowers to pay the interest on their loans. This means that the economy as a whole can survive only as there is substantial growth in the money supply, created by increasing lending. The economy will collapse if it does not grow." ... "I have argued that ending the power of the banks to create money and reassuming the government's ability to do so is required in order move toward a steady-state economy." (Cobb J 2013)

Unfortunately, the laws of thermodynamics don't apply to the monetary system, which it would be more constructive to see e.g. through the laws of electromagnetics or distances.[1081] More on this "perpetual debt" hoax under "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "3.1.2 Other Scapegoats for the Mystical Growth Dependence".

Combining ecological economics with Georgist political economy allows filling some of the gaps regarding property rights and economic justice.

1080 See: "3.1.2.1 The Perpetual Debt Hoax, a.k.a. The Fallacy of Unpayable Interest" and "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

1081 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

"Ecological economics has no theory of property as such, and Georgism here offers a proven course of application." (Batt 2003)

There is a similarity in that Henry George already emphasized "land" – i.e. natural resources – as the most important (and the only necessary) factor of production, subjecting labor and capital to it, criticizing the view where capital is the initiator, "employing" labor and natural resources.

"Capital does not supply the materials which labor works up into wealth, as is erroneously taught; the materials of wealth are supplied by nature. But such materials partially worked up and in the course of exchange are capital." (George 1912, p. 56)

"There must be land before labor can be exerted, and labor must be exerted before capital can be produced. Capital is a result of labor, and is used by labor to assist it in further production. Labor is the active and initial force, and labor is therefore the employer of capital. Labor can be exerted only upon land, and it is from land that the matter which it transmutes into wealth must be drawn. Land therefore is the condition precedent, the field and material of labor. The natural order is land, labor, capital; and, instead of starting from capital as our initial point, we should start from land." (George 1912, p. 99)

However, Georgist political economy treats nature purely as a resource that people can use for productive ends or hoard to extort one another, while in ecological economics, nature is a complex "life-sustaining matrix" and it is more concerned with how human activity – especially its scale – can interfere with ecological processes[1082] (Cobb C 2013). William Batt (2003) and Clifford Cobb (2013) provide very enlightening overviews on the overlaps and differences between the approaches of ecological economics and Georgism in regard to e.g. natural resources and social justice. They focus on different issues – for example different kinds of equality and justice[1083] – but they may have a lot to learn from each other even in their own major pursuits.

"Nevertheless, the policies proposed by Georgists may actually be more effective in preventing the damage caused by economic growth than the policies favored by ecological economists." (Cobb C 2013)

1082 "Nevertheless, in their understanding of the nature of land, these two strands of heterodox economics are poles apart. Ecological economics considers land in bio-physical terms and in its particularity as complex ecological processes occurring at specific sites."... "The key issue for ecological economics is defining the scale of human activity that will disrupt that matrix. ... "[T]hey think largely in terms of the conflict between human activity and natural processes."
Historically, Georgist economics has treated nature purely as resource. When Henry George wrote in the late 19th century, before widespread understanding of the second law of thermodynamics, he adopted the view that the earth could sustain one hundred billion people and a nearly infinite amount of physical transformation of the earth. Thus, Georgism began as an anthropocentric worldview. In Georgist economics, the central issue has been the liberal hope of human freedom, a world in which no human is allowed to dominate another. Land is important primarily as an intermediary in the struggle of humans for power and secondarily as the storehouse of potential wealth for humanity."
Both perspectives (the ecological view of land as matrix of life and the Georgist view of land as matrix of human interactions) are neglected in neo-classical economics, which assumes that labor and capital work together in a kind of mathematical ether." (Cobb C 2013)

1083 "Both ecological and Georgist economists are concerned with issues of equity, but they differ greatly in what sorts of equity they emphasize. Ecological economics focuses on intergenerational equity, and Georgists focus on present-day inequities in wealth. Neither has a theoretical model about inequities of power, and neither seems particularly interested in the connection between inequity and environmental damage." (Cobb C 2013)

2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder

In short:

- ***Mainstream economics and the politics based on it is focused on maintaining "sufficient aggregate demand", i.e. keeping the system running at its full production capacity.***
- ***...and combatting inflation – of any kind.***

> "Neoclassical economics transformed itself so radically in the 1940s and 1950s that someone ought to invent an entirely new label for post-war orthodox economics." – Mark Blaug, The Formalist Revolution or What Happened to Orthodox Economics After World War II (1998, p. 2)

It is quite common to slur concepts by referring to the dominant economic paradigm – "orthodox economics" – as "neoclassical economics". The current "mainstream" – the models that are taught in economic curriculums of universities and that most of current economic policies are based on – is rather a mixture of monetarist and New Keynesian models with neoclassical elements embodied in them.

Although, the "current use of the term [neoclassical] by historians of thought is schizophrenic and inconsistent", it most often refers to economic ideas that emerged and were dominant from around 1880s to the 1920s (Colander 2000, p. 132) and that are characterized by:

> – A focus on the allocation of resources at a specific time
>
> – Assumptions of utilitarianism (that agents maximize value) and far-sighted rationality as well as focus on marginal tradeoffs
>
> – The existence of a single general equilibrium. (Colander 2000, p. 134-135)

However, during the past decades, theories of bounded rationality and findings of behavioral economics[1084] have found themselves deep into the mainstream. The existence of multiple equilibria (e.g. Nash equilibria) is commonly accepted and game theory has largery replaced utility calculus as "the central modeling apparatus." But most notably, mainstream economics is far more focused on economic development – mainly how to sustain growth – than resource allocation at any specific time. (Colander 2000, p. 135-136)

A major objective, uniting many mainstream economic policies, is actively fighting cyclical (a.k.a. "Keynesian") unemployment – a major symptom and cause of cyclicity and economic instability – by maintaining "sufficient aggregate demand", i.e. creating more work so that there is enough of it for everyone. The aim is to close any "output gaps" – the difference between the potential amount of production (assuming full-time employment of the whole population) and current production (GDP) – i.e. to keep the system running at its full production capacity.

To frame this question in terms of the balance of saving and investing,[1085] the idea is to avoid excessive monetary saving by increasing spending and investing.

Another cause of concern is inflation, which is thought to be bad for economic development and stability in any form. Therefore a major debate, especially regarding monetary policy is whether the central bank should solely focus on maintaining price stability (i.e. low inflation) or whether it should also take economic growth and unemployment rates (the output gap) into consideration. The ECB is focused purely on inflation (price stability) while the FED is officially under a "dual mandate" of maintaining price stability and maximal employment – although practically emphasizing price stability.

It is peculiar how the mainstream has completely forgotten about the major notion in neoclassical economic models: that people's "utility functions"[1086] also include free time (leisure), and has taken maximal output as an objective in itself.

2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably

In short:

- ***Fiscal stimuli compensates private saving with public debt for spending and investment and in this way aims to decrease***

1084 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

1085 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

1086 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

fluctuations in aggregate demand due to e.g. economic uncertainty and the "cyclicity" of production goods industries.

"For my own part I am now somewhat skeptical of the success of a merely monetary policy directed towards influencing the rate of interest. I expect to see the State, which is in a position to calculate the marginal efficiency of capital-goods on long views and on the basis of the general social advantage, taking an ever greater responsibility for directly organising investment; since it seems likely that the fluctuations in the market estimation of the marginal efficiency of different types of capital, calculated on the principles I have described above, will be too great to be offset by any practicable changes in the rate of interest." – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 104)

"No government will be able to sit back and wait for the degree of unemployment which will result in the degree of price fall that will create enough idle money to induce sufficient private investment to start a movement back to prosperity." – Abba P. Lerner (1947, p. 315)

"If I had to pick an animal to describe the U.S. economy right now I would have to go with the hamster. But like a really tired hamster that's been running around it's cage for like seven years. Now it's exhausted. As a microeconomist I would say that the hamster needs some rest. Macroeconomists of course look at the hamster and think that it needs some methamphetamines." ... "I'm sure they are right about the hamster needing methamphetamines, but all I'm saying is that in two years that is going to be one ugly hamster." – Yoram Bauman[1087]

Governments (national, state and municipal) are also agents – the "public agents" – in the economic system and thus governments can compensate for decreased private spending and investing by taking on debt (negative saving) to spend and invest themselves, and instead tax more and pay off debts (saving) when private demand is higher. The idea of controlling and stabilizing the economy with these kinds of fiscal stimuli is the main idea of Keynesian economic policy.

Keynes is often ridiculed, as he is interpreted to e.g. suggest that governments should, in a recession, make people dig holes in the ground and fill them again, just to keep them employed if nothing else. And this is also close to how some followers have interpreted Keynes. The story of the "broken window fallacy" recited by Henry Hazlitt (1946, p. 11-14) in his book "Economics in One Lesson" is one criticism of such thinking where all costs are perceived to be good for the economy.

However, the example Keynes gave of burying money in the ground to let people dig it up was not intended to be a normative suggestion, but rather a satirical analogy of the view of some other schools of economics that deflation (a rise in the purchasing power of money) under a gold standard is good because it encourages people to go digging for gold. Keynes's main point here was that the additional gold digging only results in an increase in the money supply and therefore it does not produce real value to anyone or the economy any more than digging up cash buried by the government. (Keynes 1936, p. 85)[1088] Instead, Keynes's suggestion is that, as the government makes some investments in any case, it should time them to counteract changes in the private demand for production goods (which is very sensitive to changes in expected future demand and hence very cyclical in nature[1089]) in order to keep aggregate demand more stable and thereby smooth economic cycles. When these investments are funded with public debt – instead of increased taxation – the bonds or new money satisfy the private sector's – the citizens' – need to save, so that enough money (the quantity of which Keynes assumed to be quite inelastic) keeps flowing in the economy.

1087 3:22->, Bauman, Yoram, 2009, "Stand-up economist Yoram Bauman on the financial crisis", viewed 3.11.2013, http://www.youtube.com/watch?v=9utlDdLhaTU

1088 "It is curious how common sense, wriggling for an escape from absurd conclusions, has been apt to reach a preference for wholly 'wasteful' forms of loan expenditure rather than for partly wasteful forms, which, because they are not wholly wasteful, tend to be judged on strict 'business' principles. For example, unemployment relief financed by loans is more readily accepted than the financing of improvements at a charge below the current rate of interest; whilst the form of digging holes in the ground known as gold-mining, which not only adds nothing whatever to the real wealth of the world but involves the disutility of labor, is the most acceptable of all solutions.
If the Treasury were to fill old bottles with banknotes, bury them at suitable depths in disused coalmines ... and leave it to private enterprise on well-tried principles of laissez-faire to dig the notes up again ... there need be no more unemployment .... It would, indeed, be more sensible to build houses and the like; but if there are political and practical difficulties in the way of this, the above would be better than nothing.
The analogy between this expedient and the goldmines of the real world is complete." (Keynes 1936, p. 85)

1089 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

Monetarists critique Keynesian policies pointing out that increased government spending and tax cuts might result in increased private saving. The popular claim that government borrowing would increase market interest rates is at least outdated – if it ever has worked as modeled. This interest rate mechanism rests on the assumption that the sshort-run supply of money is inelastic, which might have applied somewhat when physical cash was the most liquid form of money. However, in today's world of electronic credit money, the supply of credit is *infinitely interest-rate-elastic*.[1090] Money is *endogenous*, meaning that the amount of money is not controlled by any external entity (such as the central bank), but the market can "create" just as much money as the creditworthiness of borrowers allows. (Wray 1990)

If the government "borrows"[1091] from a bank, the bank simply issues new liquid credit to match the government bonds that the bank adds to its assets. If the government sells its bonds to private investors other than banks, it is practically replacing liquid credit – money – with non-liquid credit and decreasing liquidity, but the liquidity is returned when the government spends this money back into the system through a budget deficit.

Other critics, including "supply-side economists" (Wanniski 1979), say that the "bond trick" is an illusion. And it sort of is – at least in terms of overall economic security. The government's debt – including any new central bank money issued – could be considered to be all its citizens' debt. If everyone had government bonds – or government issued money (i.e. liquid government bonds) – this just meant that they owed themselves via the government. If some have savings and others don't, the ones that don't are practically owing the ones that have the savings. But people owing each other only increases the economic security of those with credit on the expense of the ones in debt. The security provided by credit comes from the fact that someone has to work for you when you eventually want to spend that credit.[1092] If the government has no sure way of making people work for itself – an efficient way to collect taxes or other income – there is no guarantee that this kind of debt-obligation through the government will be fulfilled and there is a risk of hyperinflation wiping the savings away.[1093]

As a whole, people would be economically in a more secure situation if everyone had less savings and there would be less debt, as there would be lower risks of defaults – and of hyperinflation risks, in the case of high government debt.

The "confused psychology" that such "government programs" (i.e. fiscal stimuli) can "reduce confidence" (Keynes 1936, p. 80) and the possibility that public investment (and the services they provide) might offset the *need* for private investment are also valid arguments. But even if the fiscal stimulus didn't have these "rebound effects", the bigger problem is that further investments are not needed unless consumption is expected to increase in the long run. Even John M. Keynes himself stresses this point:

> "New capital-investment can only take place in excess of current capital-disinvestment if future expenditure on consumption is expected to increase. Each time we secure to-day's equilibrium by increased investment we are aggravating the difficulty of securing equilibrium tomorrow. A diminished propensity to consume today can only be accommodated to the public advantage if an increased propensity to consume is expected to exist some day." (Keynes 1936, p. 71)

This makes fiscal stimulus packages a sensible line of action *only* when the reduced demand is clearly due to some temporary external shock and that private spending can *certainly* be expected to increase in the long run if just the temporary insecurity didn't hamper it. This might have been a valid expectation when most people were living hand-to-mouth.

But, we should not forget that – as even the neoclassical growth model recognizes[1094] – leisure (free time) also has utility (value) to people. In the Western world today, there is nothing to guarantee that people would constantly want to increase their consumption at the rate labor productivity grows – even if the economic recession was first triggered by a financial crisis or other shock causing insecurity. Especially when consumption (a word which dangerously confuses spending money with deteriorating natural resources)[1095] is being demonized more and more.

If the alternative to fiscal stimulus would be bringing private aggregate demand and supply into balance with a lower (negative if necessary) real interest rate,[1096] then fiscal stimuli (similarly to wage regulation and excessively

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1090 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous"

1091 See: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'"

1092 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?"

1093 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs" and "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

1094 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

1095 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units"

1096 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply" and "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

generous social support[1097]) can also be considered an income transfer to all capital, as it maintains a higher market balance interest rate, raising the profit requirements[1098] of all investments.

2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply

In short:

- *The traditional monetarist view of monetary policy is that the central bank controls the money supply to balance economic development and changes in the price level.*
- *However, it would be more descriptive to say that the central bank's policy interest rate keeps aggregate supply and demand in balance by affecting the profitability of saving and the cost of being in debt – the quantity of money is not a relevant causal link between the interest rate and the price level.*
- *Quantitative easing – an "unconventional" monetary tool – mainly affects liquidity in the market (and the prices of the financial assets purchased) and has a much less linear effect (i.e. a more speculative, unpredictable, destabilizing effect) on the price level than policy interest rate changes.*

> "The banking system has no direct control over the prices of individual commodities or over the rates of money-earnings of the factors of production. Nor has it, in reality any direct control over the quantity of money ; for it is characteristic of modern systems that The Central Bank is ready to buy for money at a stipulate rate of discount any quantity of securities of certain approved types.
>
> **Thus ... it is broadly true to say that the governor of the whole system is the rate of discount. For this is the only rate which is directly subject to the will and *fiat* of the central authorities, so that it is from this that induced changes in all other factors must flow."** – John Maynard Keynes, A Treatise on Money", (1930, p. 211)

> "The earning class is, therefore, better able to save when interest is falling, and the capitalistic class when interest is rising. It would be a fallacy, however, to conclude from this that the function of saving, as a whole, and the increase of capital, is unaffected by the fact that interest rises or falls." – Silvio Gesell, The Natural Economic Order (1916, Part 5, Ch. 5)

> "[T]he multiplier model, whether viewed from an analytical or empirical perspective, is at best a misleading and incomplete model and at worst a completely misspecified model." – Raymond Lombra (1992, p. 305)

An alternative to changing government spending is to affect consumer (and enterprise) behavior by controlling interest rates. The traditional way to describe "monetary policy" – especially by monetarists and other worshippers of the Quantity Theory of Money – is that the central bank keeps inflation stable by controlling the money supply. However, this view is entirely misleading because, firstly, the central bank has little control over the money supply.[1099] The total quantity of credit – and also of liquid credit – in the system is endogenously determined by them market. Secondly, because the direct causal relationship between the total quantity of credit (any monetary aggregates) and the general price level (inflation) is very weak in today's credit money system.

Nevertheless, Western central banks have been very successful at keeping inflation stable during the past two decades. Their policy interest rates (e.g. the Federal Funds Rate of the FED) can still affect inflation although the causal mechanism does not run through the "money supply" variable.[1100] As explained in "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little

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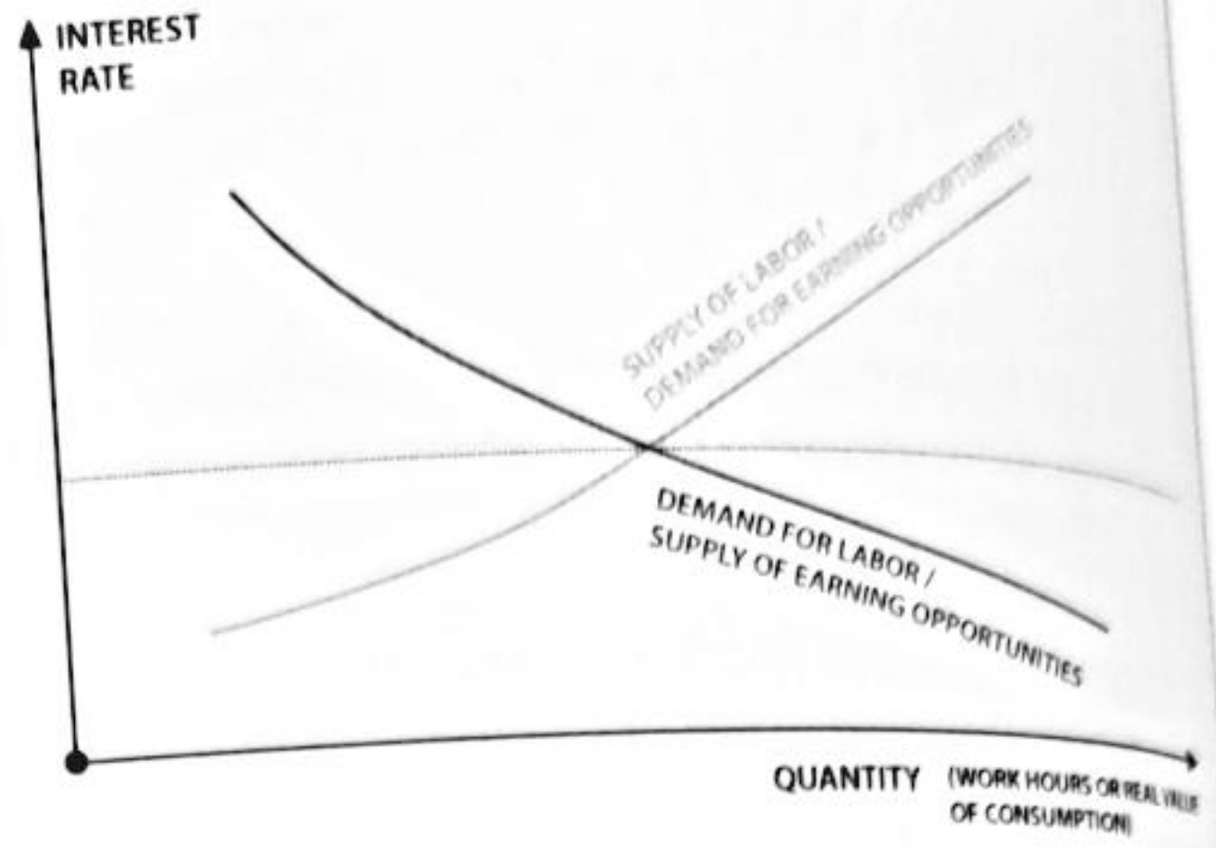
1097 See "2.2.3.3 Wage Regulation by the Government – All or Nothing", "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics" and "3.1.3 Structural Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1098 See "1.4.8 Labor and Capital (and Land?) – The Factors of Production"

1099 It can theoretically set an upper limit to the amount of credit that banks can extend by setting reserve requirements and refraining from lending new reserves (see: "Sidenote Box 2252A: The Actual Policy Tools"), but the reliability of such limits are questionable (it can be avoided e.g. by encouraging savings accounts, as they usually don't have similar reserve requirements) and their point even more so, as the quantity of money is not the main driver of the price level.

1100 For how the Quantity Theory in the context of monetary policy is analogous to the "equal transit" theory in functioning of airplane wings and sails on boats, see: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

to Do with the Quantity of Money", the changes in the overall price level are determined by aggregate supply and demand (and any possible wage regulations). And as explained in "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous", the central bank policy interest rate is practically the cost of risk-free credit and determines the cost of being in debt and the profitability of holding credit. Therefore the central bank's "conventional monetary policy" (adjusting the interest rate) is rather keeping the "demand for being in debt" and "the demand for holding credit" in balance – just like a market interest rate should.[1101]


INTEREST RATE
SUPPLY OF LABOR / DEMAND FOR EARNING OPPORTUNITIES
DEMAND FOR LABOR / SUPPLY OF EARNING OPPORTUNITIES
QUANTITY (WORK HOURS OR REAL VALUE OF CONSUMPTION)

GRAPH 22: AGGREGATE SUPPLY AND DEMAND FOR LABOR

How does this translate into aggregate demand and supply for labor? Let's remember that companies are mere intermediaries in a process where people practically buy work (and "risk-carrying services" in the form of finance) from each other through products and services produced with that labor (and finance).[1102] When a person is saving as money (or other monetary assets), he is practically supplying more labor than he is demanding. On the other hand, when a loan is taken – or savings reserves are depleted – to finance new real investment, more labor is demanded than is supplied.[1103] Hence, people saving more than others want to be in debt practically results in an oversupply of labor, which leads to falling wages and, hence, falling prices of products and services.

One important conclusion is that an oversupply of capital (saving) practically *is* an oversupply of present labor! When people want to save more than is needed for investments (capital is oversupplied), it can just as well be said that people want to sell more work than they want to buy work (through spending and real investments), i.e. more labor is supplied than demanded.[1104] Therefore the view of the classical economists that the cost of "factor prices" would be complementary – that interest rates rise when there is a deficit of capital relative to labor and vice versa – is completely on the wrong tracks.[1105] The empirical evidence against this theory was already demonstrated by John Maynard Keynes and "Gibson's paradox" (Keynes 1930, p. 203-207)[1106] and also Henry George points out that, in fact, "interest is high where and when wages are high" and vice versa. (George 1912, p. 23) Hence, the concept of "aggregate demand" (or supply), without having to specify it as the aggregate demand for (or supply of) labor, is justified.

Mathematically we could express this roughly as follows:

$$\begin{aligned} &AdditionalDesireToBeInDebt - AdditionalDesireToHoldCredit \\ &= ExcessDesiredIncreaseInDebt \\ &= ExcessDemand(forLabor) \\ &= AggregateDemand - AggregateSupply \end{aligned}$$

To avoid a chain reaction of accelerating inflation due to excessive aggregate demand (so-called "overheating" of the economy) interest rates are raised to make saving upfront for investments and paying off loans more profitable compared to borrowing to make investments earlier. When economic growth (the increase in total demand[1107]) slows down – as a result of reduced spending and reduced investment – below the increase in labor productivity (and/or supply of labor), excessive saving as money is discouraged and taking on debt encouraged by lowering interest rates.

The model we suggest for the economic effects of "conventional" monetary policy – adjusting the market interest rate – is meant to be as broad as possible, while remaining simple and clear. This model (lower half of the graph, in lighter shades) and its differences with the monetarist perception (and other Quantity Theory views

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1101 See: "Graph 20: The (voluntary) 'demand for being in debt' and the 'demand for holding credit'."

1102 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

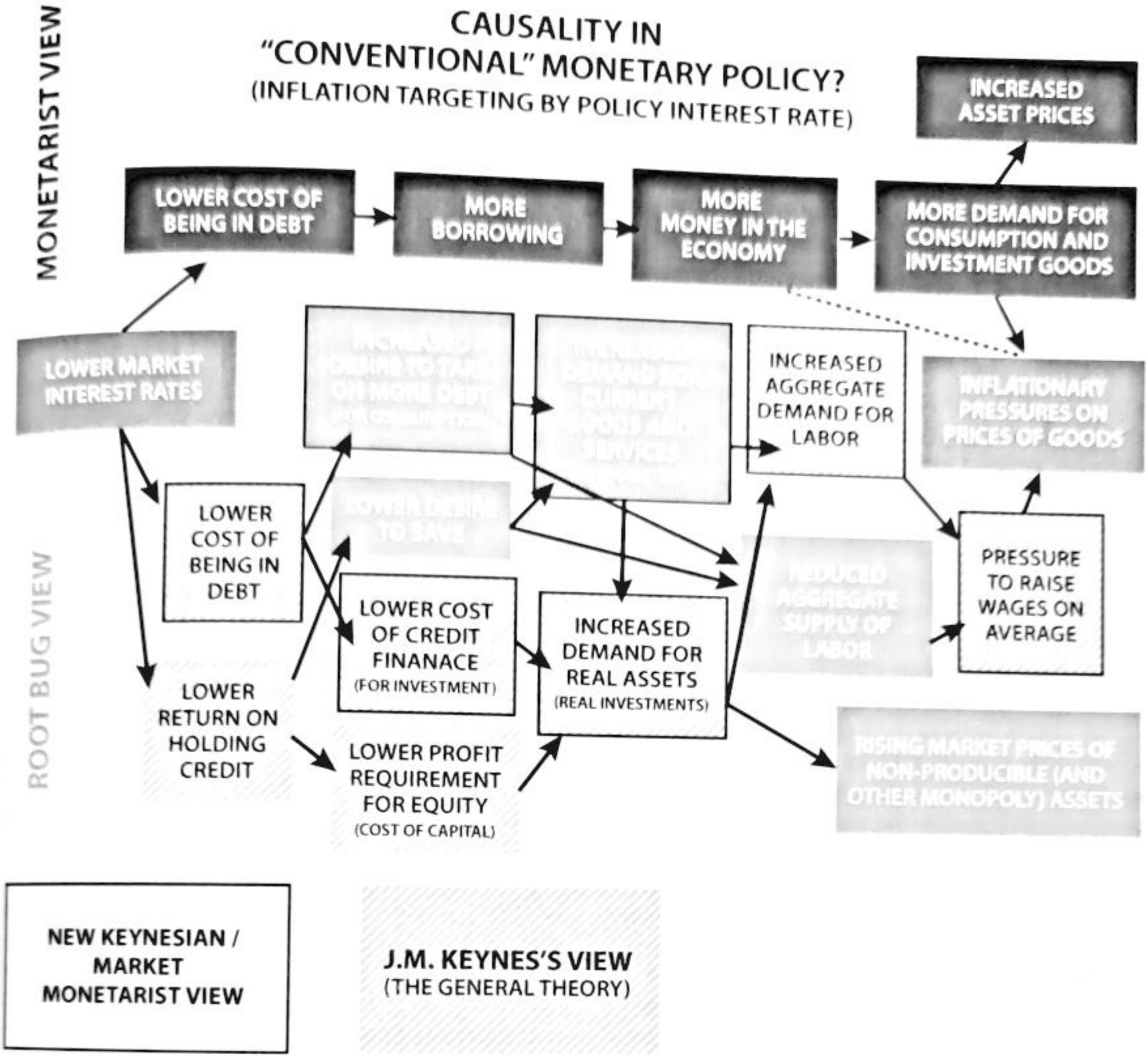
1103 Note: Receiving unemployment support or any other transfer payment could be seen as providing completely unproductive labor.

1104 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

1105 This view point is likely to have been strongly affected by the fact that classical economists (such as David Ricardo and Thomas Malthus) liked to separate people into the classes of "workers", "capitalists" and "landlords", and the assumption that only capitalists invest their savings productively – and always do invest. (Chang 201, p. 140-141) In such a theoretical situation, "an oversupply of labor" might mean laborers wanting to save too much and "an oversupply of capital" would mean capitalists wanting to save too much.

1106 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People' the Banks'".

1107 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".


MONETARIST VIEW
CAUSALITY IN
"CONVENTIONAL" MONETARY POLICY?
(INFLATION TARGETING BY POLICY INTEREST RATE)
LOWER COST OF BEING IN DEBT
MORE BORROWING
MORE MONEY IN THE ECONOMY
MORE DEMAND FOR CONSUMPTION AND INVESTMENT GOODS
INCREASED ASSET PRICES
LOWER MARKET INTEREST RATES
INCREASED AGGREGATE DEMAND FOR LABOR
INFLATIONARY PRESSURES ON PRICES OF GOODS
LOWER COST OF BEING IN DEBT
LOWER COST OF CREDIT FINANACE
(FOR INVESTMENT)
INCREASED DEMAND FOR REAL ASSETS
(REAL INVESTMENTS)
REDUCED AGGREGATE SUPPLY OF LABOR
PRESSURE TO RAISE WAGES ON AVERAGE
ROOT BUG VIEW
LOWER RETURN ON HOLDING CREDIT
LOWER PROFIT REQUIREMENT FOR EQUITY
(COST OF CAPITAL)
RISING MARKET PRICES OF NON-PRODUCIBLE (AND OTHER MONOPOLY) ASSETS
NEW KEYNESIAN / MARKET MONETARIST VIEW
J.M. KEYNES'S VIEW
(THE GENERAL THEORY)

GRAPH 23: A MODEL OF THE EFFECTS OF THE MARKET INTEREST RATE, WHICH THE CENTRAL BANK SETS IN "CONVENTIONAL" MONETARY POLICY.

in a darker shade) of the causalities between the interest rate and inflation pressures are presented in Graph 23.

If e.g. the currently demanded amount of consumption goods and services is at a level requiring 10 B$/year worth of labor for their production and the needed additional investments, i.e. the demand for production goods (with current expectations of future demand) would need 2 B$/year worth of labor, but the amount of labor supplied is only 11 B$/year, this means that the desired amount of consumption and investment exceeds the desired amount of work by 1 B$/year. There is therefore a desire to borrow 1 B$/year more than there is to save monetarily. For example, there might be an overall desire to save up 1 B$/year as additional financial assets by some, but a 2 B$/year willingness to take on new consumption or investment loans. This would mean a fierce competition over resources – especially labor – as more would be needed than is available. This causes more upwards pressure (in some professions) than downwards pressure (in other professions) on wages[1108] and would hence lead to accelerating inflation.[1109] To avoid this inflation, the central bank can raise the interest rate until the aggregate supply and demand for labor are in balance – and therefore also

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1108 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1109 Of course, with wage regulation, both the interest rate and the oversupply of labor are higher in the state of non-accelerating inflation. See: "2.2.3.3 Wage Regulation by the Government – All or Nothing".

the demand for being in debt and for holding credit are in balance.

Firstly, the higher rate might for example encourage people to save more and hence (a) spend less to reduce demand for consumption goods and services by an amount that reduces the demand for labor by 0.3 B$ and (b) work more (e.g. people willing to work overtime for cheaper or getting some employees to return from their sabbatical) to increase the supply of labor by 0.1 B$. Then the reduced expected future spending and the higher discounting rate[1110] together might reduce the amount of profitable looking real investment opportunities by an amount that would reduce the demand for labor further by 0.6 B$. The balanced aggregate demand and supply of labor would then stand at 11.9 B$/year and the market for additional credit would stand at 1.6 B$/year.

Of course the actual rates at which labor supply decreases and consumption and investments increase (in proportion to one another or in response to a specific interest rate change) – their "interest rate elasticities" – are impossible to predict: They are matters of supply and demand and a result of individual investors', workers' and consumers' assessments and the opportunities available to them. But, most importantly, all of these effects of the interest rate on inflationary pressures are in the same direction![1111] And this explains why "conventional monetary policy" is so effective – why it is enough that the central bank raises its interest rate to react to inflationary pressures and lowers it to react to deflationary pressures. Conventional monetary policy is practically just replacing the market mechanism for the interest rate, which does not work naturally with any commodity money or other currency of inelastic supply.[1112]

However, in this model, both the amount of money and debt and the total amount of production and consumption (the change in which is "economic growth"[1113]) are "endogenous". The central bank cannot affect these directly, as they depend on the "interest rate elasticities" of people's desire to save and to hold debt as well as their preference of free time over products and services.

1110 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1111 In the short run, there can of course be exceptions due to the irrational nature human beings. If a person is e.g. fixated on the idea of retiring at 60, lower returns on their retirement savings might make him want to save even more at first. But if interest rates can drop low enough, eventually they should start considering having that freetime earlier instead and retiring later.

1112 See: "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations".

1113 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

John Maynard Keynes – as early as 1930 – emphasized that the central bank's interest rate primarily affects the rate of investment and that most other effects follow from this:

> "[I]t is broadly true to say that the governor of the whole system is the rate of discount. For this is the only rate which is directly subject to the will and *fiat* of the central authorities, so that it is from this that induced changes in all other factors must flow.
>
> This means, in substance, that the control of prices is exercised in the contemporary world *through the control of the rate of investment*. There is nothing that the central authority can do, whether it operates by means of the bank-rate or by means of open-market dealings, except to influence the rate of investment." (Keynes 1930, p. 211, *italics* in original)

And turning monetary savings into real or risk-bearing investments is likely to be the most significant *short-term* effect of interest rate changes, as this can happen relatively quickly compared to changes in people's total savings. However, Keynes is omitting the fact that the rate of interest – especially in the long-term – can also affect *consumption* and people's *willingness to work* (the supply of labor). When people can expect a bigger return on their savings – whether they prefer keeping their savings as risk-free credit or productive investments – they will be more inclined to save, i.e. inclined to work more relative to their consumption (work more or consume less) and vice versa. An oversupply of capital essentially is an oversupply of labor. Individuals attempt to accumulate capital by saving money, but unless net real investments occur at the same rate as net saving[1114], there won't be enough earning opportunities and the competition over them will push wages and prices down.

Some New Keynesians and e.g. "market monetarist" Scott Sumner point out the effect of interest rates on aggregate demand: The more there is aggregate demand relative to aggregate supply, the more prices rise. This is how they explain why inflation is hard to increase with high overall unemployment. But unfortunately, they too, miss the potential effect of the interest rate on people's desire to save and the aggregate *supply of labor*: Lower expected yields on savings can affect people's willingness to work (if they have any choice in this regard[1115]).[1116]

1114 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

1115 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability" and the "B factors" in: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them").

1116 We could say that lower interest rates can alleviate the "Paradox of Toil", which has been presented by Gauti Eggertson (2010):
"Suppose everyone wakes up one day and decides they want to work more. What happens to aggregate employment? This paper shows that under certain conditions, aggregate employment falls; that is, there is less

Of course, with the assumption of a fixed amount of work per person – a human being as the unit of labor – a fairly fixed (or at least interest-rate-independent) supply of labor seems like a logical simplification.[1117] The effects on the supply of labor could be significantly higher if people had the realistic option of working less without this resulting in a higher risk of long-term unemployment.[1118]

L. Randall Wray (a Post-Keynesian) argues that:

- when there are no profitable investment opportunities, no interest rate (even a negative one) can induce companies to invest, and that
- it makes little sense to try to induce people to borrow and spend more when they're already too heavily indebted.[1119]

And he is right. But he, too, omits the effects that lower rates can have on people's willingness to save. And that the need to induce people to save is the whole justification for the (risk-free) return on capital! If we assume that people would still want to save excessively (more than is needed for investments) with a -10 % interest rate, then that means that capital really does not need to make a profit and that companies and investments could be "profitable" at a loss.[1120] It is interesting how eagerly Post-Keynesians want to maintain the "minimum wage of capital".[1121] [1122]

The Post-Keynesian skepticism towards the effectiveness of monetary policy also does not take into account how mitigating the risks of long-term unemployment can reduce the positive feedback mechanisms that cause cyclicity[1123], making the economy more "sensitive" to interest rates.

The model presented in Graph 23 integrates the effects on real investment suggested by Keynes with possible effects on consumption, but additionally accepts that (1) lower returns on savings *can* increase people's desire to spend more earlier and that (2) both the lower profitability of saving and lower costs of holding debt *can* (in addition to increasing spending) reduce people's willingness to work (i.e. lower the *supply* of labor). These possibilities are accepted for example in Irving Fisher's "Theory of Interest, As Determined by Impatience to Spend Income and the Opportunity to Invest It" (1930).[1124]

So even though, officially, the function of central bank monetary policy is to keep inflation stable – and therefore reduce uncertainty in the market – it simultaneously serves the purpose of keeping total supply and demand for labor in balance (at least if wages were not regulated[1125]). Therefore a "dual mandate" (like the one the FED officially has) of keeping inflation stable and maintaining low unemployment (or low underemployment) should not be necessary.

But as can be seen in e.g. the current situation, a stable inflation rate does not mean full employment. Some critics like Paul Krugman say that the inflation stability target should be abandoned (and unemployment targeting emphasized) and e.g. Scott Sumner suggests replacing the dual mandate with "nominal GDP targeting", which he thinks would serve both of these purposes. However, the problem is that, as the Non-Accelerating Inflation Rate of Unemployment (NAIRU) is mainly structural, friction and classical unemployment, it cannot be solved sustainably by just increasing aggregate demand: This would lead to a constantly *accelerating* inflation rate (as the term says) – eventually hyperinflation – that is sure to have even more harmful effects on the economy.[1126] How

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work in the aggregate because everyone wants to work more. The conditions for the paradox to apply are that the short-term nominal interest rate is zero and there are deflationary pressures and output contraction, much as during the Great Depression in the United States and, perhaps, the 2008 financial crisis in large parts of the world."

1117 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

1118 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence", "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1119 "[Keynes's] argument is: the problem in a slump is that the marginal efficiency of capital - which is basically profit expectations - collapse and can easily go negative. So that if your expectation is that if you invest that you're not only not gonna get profits - you're actually gonna incur losses, there is no interest rate that would get you to invest. Even if you could get interest rates negative." ... "You need fiscal policy..." ... "The idea that you can get people to borrow and banks to lend by pushing interest rates down and stimulate the economy that way was always wrongheaded. Wrongheaded for two reasons: One, we don't want people to borrow more: Households are too heavily indebted. So pushing interest rates down which incurs them to borrow more, was not a good strategy. But, second, if people are worried about the future, they're not going to borrow. So it also wouldn't work."
- 9:45->, 11:04-> & 11:30->, "Podcast with Randy Wray September 23rd", listened 19.5.2014, http://hwcdn.libsyn.com/p/f/2/4/f2401393fdd5ef47/Podcast_with_Randy_Wray_Sept_23.mp3?c_id=6180483&expiration=1400534887&hwt=9f4eaebeb8a830156bfcf401bc32bc96

1120 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1121 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1122 This serves as yet another example of how segregated and excessively specialized academia is even within economics (see: "5.2 Academic Economics Is Important – But It Is Not An Innovator"). Monetary theorists and macroeconomists don't (want to) understand theories of capital. Capital theorists and those getting the monopoly nature of land don't understand money. Those who understand the evolutionary nature of industries and the imperfections of information make unrealistic assumptions on macro, money and capital, and so on.

1123 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1124 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1125 See: "2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'", "2.2.3.3 Wage Regulation by the Government – All or Nothing" and "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics".

1126 Nominal GDP targeting is returned to in "4.2 Preventing Excessive Monetary Saving – Allowing Monetary Policy to Balance Aggregate Supply and Demand".

making sharing work profitable would remove the need for NAIRU unemployment (and wage regulations that further raise it) is explained in "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

A bigger, more relevant problem is the zero lower bound of interest rates. Currently, interest rates in many Western economies are already close to, or at, zero, but spending and investing in real assets still do not pick up. Nominal interest rates cannot be set much below zero because, as long as there is physical cash, this would cause depositors to withdraw their funds. In some cases, the interest rate can be a few promilles on the minus side for institutional investors who are ready to pay this "service fee" for someone storing their funds, but these interest rates never reach consumers or companies.

An economy gets stuck at the zero lower bound (often called "falling into a liquidity trap"[1127]) in a situation where the economy is not expected to grow and there is hence little need for additional real investments. Investing in more capacity (houses, machines, training, R&D, etc.) would just cause excess, unused capacity, which would lie idle without generating any profits or revenues. In this situation, people choose to hold on to their monetary assets, as (due to the central bank's promise to ensure "price stability", i.e. keep the inflation rate at 1-2 %) it is safer and more profitable to keep one's savings (i.e. preserved purchasing power for the future) in them than in any real assets.

When the increased saving by individuals, companies and other institutions results in excessive piling up of debt (on other private sector agents or the government), this may start increasing the credit default risks of these debtors, which raises interest rates for debtors despite the central bank keeping interest rates for risk-free credit at 0 %. One way for the central bank to hinder this rise in interest rates is to intervene in the market and buy up more bonds from the market – replace non-liquid credit with liquid credit, money. This is called *quantitative easing* (QE).

> "In exceptional circumstances, when interest rates are at their effective lower bound, money creation and spending in the economy may still be too low to be consistent with the central bank's monetary policy objectives. One possible response is to undertake a series of asset purchases, or 'quantitative easing' (QE). QE is intended to boost the amount of money in the economy directly by purchasing assets, mainly from non-bank financial companies.
>
> QE initially increases the amount of bank deposits those companies hold (in place of the assets they sell). Those companies will then wish to rebalance their portfolios of assets by buying higher-yielding assets, raising the price of those assets and stimulating spending in the economy." (McLeay et al 2014, p. 14)

However, this last stated claim that purchases of assets by investment companies would raise spending and therefore the aggregate demand for labor is very questionable.

> "Whether quantitative easing can be effective in relieving deflationary pressures, and if so, by what mechanism, remains controversial. As already noted, EW have provided theoretical reasons to doubt the efficacy of quantitative easing as an independent tool of policy. Specifically, they show that, in a world in which financial frictions are limited and in which a clear dichotomy is maintained between monetary and fiscal policies, quantitative easing will have no effect, except perhaps to the extent that the extra money creation can be used to signal the central bank's intentions regarding future values of the short-term interest rate. The assumptions of frictionless financial markets and complete separation of monetary and fiscal policies, to be sure, are rather strong. If these assumptions do not hold, we may have some basis for believing that quantitative easing will be effective." (Bernanke et al 2004, p. 18)

> "Flooding banks with additional liquidity, as central banks have done recently via Quantitative Easing (QE), has not led to much commensurate increase in bank lending or broad money." (Charles A. E. Goodhart in: Ryan-Collins et al 2012, p. 3)

Instead, there is evidence that quantitative easing tends to raise asset prices,[1128] which makes such central bank policy announcements significant targets and causes of (unproductive) speculation.

Quantitative easing alone does not necessarily increase borrowing significantly, but it is often combined with government budget deficits, i.e. fiscal stimulus.[1129] QEs may lower the costs of credit for those institutions whose assets are bought (most notably governments, in the

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1127 A "liquidity trap" and "money being stuck in the banks" are quite misleading expressions based, again, on the idea of money as an item that "is" somewhere. See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'", "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

1128 Kay, John, "Quantitative easing and the curious case of the leaky bucket", The Financial Times, 9th Jul 2013, cited 15.10.2013, http://www.ft.com/intl/cms/s/0/6b0d5268-e7ba-11e2-babb-00144feabdc0.html#axzz2Z1rF5fsH

1129 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

case of a monetary union[1130]), but it doesn't make saving as monetary assets less profitable – as negative interest rates would. Therefore, while such policies can help keep the economy running, they aggravate the increase in the amount of total debt – and especially liquid credit – in the economy. This causes the financial sector to expand further, as it has been doing now for over a decade.

These massive amounts of capital gathered as credit – other parties' debt – their movements as well as the constantly increasing uncertainty and speculation over different parties' ability to pay back their debt are then starting to have significant effects on the real economy as well. As the size and timing of the next round of quantitative easing and fiscal stimulus package are an uncertain (and political) matter, it further increases speculation on monetary assets causing fluctuation in interest rates and asset prices as well as increased uncertainty.

When quantitative easing is targeted only at government bonds of a country with its sovereign currency – instead of private financial assets – it should not lower any risk premiums and its speculation-increasing effect is not as bad. This is practically the same as the central bank funding the government directly – replacing non-liquid government credit (bonds) with liquid government credit (central bank money). If the bonds are bought from banks, this is the only effect, as the bank has already "created" new deposits of "checkbook money" on the purchase of the bond. If bonds are repurchased from private investors, the buying back of the bond also results in creation of new checkbook money, as a bank now creates liquid deposits on the investors' account to match the new central bank money in its assets.

When a country has its own currency, the credibility of the currency is dependent on the government's ability to collect taxes – just like that of the government's bonds. It doesn't make sense for there to be a risk premium for government bonds (of monetarily sovereign states), because the same risks apply to the currency in which the bonds are issued. The additional yield of interest-rate-indexed government bonds should therefore result only from the opportunity cost of lost liquidity.

Of course, this lost liquidity makes it harder to "exit" the bond (as investors call selling an asset) early. Buying a (non-interest-rate-indexed) bond differs from holding deposits in that the investor commits himself to receiving a set nominal interest rate until the maturity of the bond. When nominal market interest rates – current rates or rates expected in the future – fall, this lowers the value of current (non-indexed) bonds, as their *yields* adjust to the interest rates by changes in their market value. For example, if the trust in the central bank's ability to keep inflation under control falters, this might cause investors to also expect higher nominal interest rates, as a result of which bonds can be sold early only at a clear discount and loss. Even if government bonds don't have a *default risk*, this *interest rate risk* makes them more risky as short-term investments.

The equality of default risk does, of course, not apply in the case of a monetary union where individual governments are not responsible for the value of their sovereign currencies. In such cases, government defaults are possible, and the central bank's promises to buy – or not to buy – government bonds can cause significant fluctuations in bond market interest rates. This has been seen in the turbulent policy debates over treating the eurozone debt crisis.

In the case of a monetary union like the European Monetary Union (EMU), one objection to direct central bank funding of states is that the resulting lower interest costs would be an unfair income transfer from other nations to the funded nation.[1131] (Korkman 2012, p. 200) This problem can be overcome by the central bank funding all governments in the area e.g. in proportion to their GDP or total monetary assets or by making corrections in how it distributes its surpluses ("profits") back to governments in ways that don't discourage fiscal discipline. But the EMU is a difficult situation in many ways, as the same interest rates don't always suit all areas within the union. This situation is discussed under "3.1.6.2 Sticky Trade Imbalances".

Attempting to control inflation with these quantitative easing packages when stuck at the zero lower bound (in a "liquidity trap", as the misleading expression goes) is not a very effective or sustainable alternative. In addition to it being ineffective in alleviating deflationary pressures, it results in unproductive financial speculation as well as constantly increasing amounts of debt and excess liquidity and thereby risks of hyperinflation.[1132]

In 2014, the ECB cut the rate it pays retail banks for deposits on its accounts to -0.1 %. Many journalists and commenters interpreted that "the policy should encourage private-sector banks to loan more money to businesses and households instead of holding on to it – at a loss – at the central bank."[1133] [1134] The logic with this is

1130 See: "3.1.6.2 Sticky Trade Imbalances".

1131 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".

1132 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

1133 Blackstone, Brian, "ECB Faces Uncharted Waters With Negative Deposit Rate", Wall Street Journal, 26th Mar 2014, cited 6.6.2014, http://online.wsj.com/news/articles/SB10001424052702304418404579463780850006774

1134 "The theory is that when it becomes more costly for European banks to keep money in the E.C.B., they will have incentive to do something else with it: Lend it out to consumers or businesses, for example."
– Irwin, Neil, "Europe Likely to Get Negative Interest Rates. What Does

similarly faulty to that with QEs: Banks *do not* "lend on" their central bank reserves. Central bank reserves and retail bank money are two separate, closed accounting systems. Banks would still only grant loans for which they get profitable margins. Negative rates on reserves would likely make banks pay off their excess loans from the central bank and start optimizing their reserves to match the minimum reserve requirements. As Dr. Andrea Terzi suggests, they might then start paying each other for holding their excess reserves – i.e. the interbank lending rate would turn negative.[1135] Interestingly, one logic of central banks originally starting to pay interest on reserves at all was that the *increased holding* of reserves would increase lending.[1136]

The only way to prevent piling up of further debt in our economies would be to make saving as monetary assets less profitable – which in practice would require negative real interest rates on retail bank deposits. And not just -0.1 %, but more like -3 % or -5%.

Would making all money digital be necessary for negative interest rates? For nominal interest rates yes – because of the bank run risk – but what really matters for any economic agent are *real interest rates* – how much the purchasing power of savings and debts is expected to change! And these are also affected by the expected changes in the value of money, the general price level – which is the target inflation rate! Inflation does not cause a bank run into cash, because inflation affects cash just as much as it does deposits. However, negative real interest rates due to inflation can cause a "run" into real assets, risk-carrying investments like company shares and other currencies (devauluing of the currency[1137]) – which is exactly what we would need in order to get rid of the excess debt in the economy![1138] The alternatives of eliminating cash and adopting a higher target inflation rate are discussed in more detail in "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

However, such an option would not even cross the mind of devout monetarists, because inflation (of all kinds) is the demon that they have been fighting against for half a century and now have finally managed to bring under control.

In order to avoid uncertainty, we only need *inflation stability* – that prices can be expected to rise *predictably* – but the objective has been (unnecessarily and dangerously) dogmatized more specifically into *"price stability"* – i.e. *low* inflation. (Blanchard et al 2010)[1139] The important distinction between predetermined, predictable inflation and unexpected, volatile inflation as well as many of the arguments against any kind of inflation are discussed in more detail in "4.2.4 Common Concerns with and Objections to Negative Rates or Higher Inflation".

That Even Mean?" New York Times, 4th June 2014, cited 6.6.2014. http://www.nytimes.com/2014/06/05/upshot/europe-likely-to-get-negative-interest-rates-what-does-that-even-mean.html
"As such, a negative rate would see banks charged for parking their cash at the ECB, giving them an incentive to move their money into other assets, such as loans to households and businesses."
– Bishop, Katrina, "All eyes on the ECB: Negative rate looms", CNBC, 3rd Jun 2014, cited 6.6.2014. http://www.cnbc.com/id/101723127
"The ECB wishes that, now that retail banks have to pay for their central bank reserves, they would start moving these stored assets into loan-giving." (translated from Finnish)
– 0:56->, "EKP:n negatiivinen talletuskorko selitettynä minuutissa", Helsingin Sanomat, 5th Jun 2014, viewed 6.6.2014. http://www.hs.fi/hstv/uutiset/EKPn+negatiivinen+talletuskorko+selitettyn%C3%A4+minuutissa/v1401939182060

1135 Terzi, Andrea, "What do negative interest rates do?" Credit Writedowns, 12th Dec 2013, cited 6.6.2014. http://www.creditwritedowns.com/2013/12/negative-interest-rates.html

1136 See: "Sidenote Box 2252A: The Actual Policy Tools".

1137 See: "3.5.3 The Advantage of the Possibility of Negative Interest Rates".

1138 The only big problem is a "run" into land – i.e. real estate – and other natural resources. Low interest rates tend to cause a real estate bubble. This is why land needs to be taxed according to market value. See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

1139 "There was an increasing consensus that inflation should not only be stable, but very low (most central banks chose a target around 2 percent)." (Blanchard et al 2010, p. 3-4)

Sidenote Box 2252A: The Actual Policy Tools

In practice, during the last decades, the FED has (also) controlled its policy interest rate mostly through *open market operations* (and "threats" thereof) to influence the rates at which retail banks lend central bank reserves to each other – instead of adjusting the *discount rate* it charges for loans (which was what Keynes referred to as the policy tool in his time). But the quantities of assets traded in these operations are minuscule compared to those involved in quantitative easing.

A third policy tool has been *reserve requirements*: retail banks being required to hold a certain quantity of reserves (central bank money) in proportion to the liquid deposits they have outstanding to their depositors. Since 2008, as a "fourth policy tool", the FED has also been allowed to pay interest on deposits of central bank money.[1140] The FED has for a long time supported such a right in order to reduce the cost for banks to hold central bank credit. (Feinman 1993, p. 1-2) The main function of this was to "eliminate effectively the implicit tax that reserve requirements used to impose on depository institutions"[1141] in order to encourage banks to maintain higher reserves[1142] and so to (1) ensure liquidity between financial institutions and (2) induce them to give out more loans. The latter effect has been smaller than hoped, which is understandable, as reserves do not limit "lending" (in the absence of reserve requirements) and as reserve costs are fractions of a bank's lending costs. The amount of checkbook money essentially depends on people's and companies' willingness to borrow.[1143]

Reserve requirements can be used for multiple purposes:

- *Imposing a higher inflation tax (seigniorage) on banks* (Feinman 1993, p. 570-572): When the central bank does not pay interest on its deposits, holding reserves has a cost. Higher reserve requirements increase costs for banks. The costs of "foregone interest" of course also depend on the market interest rate.[1144]

- *Ensuring liquidity*: When the central bank does not pay interest on its deposits, banks will want to minimize reserves in order to minimize the aforementioned costs, which might have adverse effects on liquidity between banks and delay the clearance of payments between them. However, it can be argued that, with the central bank as a lender of last resort, the impacts of low reserves are not significant. (Feinman 1993, p. 69)

- *Limiting the quantity of loans that can be made* (Feinman 1993, p. 574-578): A strict reserve requirement sets an upper limit for the proportion between checkbook money and central bank money. This can work to limit the total amount of loans, i.e. the amount of checkbook money, only if the central bank is not ready to lend out new reserves on demand.

In the current situation, where interest is paid on reserves and the central bank lends to private banks without quantity limitations, reserve requirements are not very impactful.

1140 Schenk, Robert, "Cybereconomics" – "The Federal Reserve and Monetary Policy", cited 7.11.2013, http://ingrimayne.com/econ/Banking/FedMonPol.html

1141 The FED, "Interest on Required Balances and Excess Balances", Board of Governors of the Federal Reserve System, cited 5.3.2014, http://www.federalreserve.gov/monetarypolicy/reqresbalances.htm

1142 Schenk, Robert, "Cybereconomics" – "Big changes 2008", cited 7.11.2013, http://ingrimayne.com/econ/Banking/bigchanges.htm

1143 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

1144 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".

Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations

Nassim Taleb is right in criticizing quantitative easing by comparing it to "shorting an out-of-the-money option" – it has a hardly noticeable effect on short-term inflation, but the added liquidity significantly increases risks of hyperinflation and general volatility of the economy. However, Nassim Taleb – siding with e.g. the devoutly anti-FED Ron Paul – forcefully attacks central bank monetary policy in general, comparing it to government control of the price of any other asset:

> "Another expression of domain dependence: ask a U.S. citizen if some semi-governmental agency with a great deal of independence (and no interference from Congress) should control the price of cars, morning newspapers, and Malbec wine, as its domain of specialty. He would jump in anger, as it appears to violate every principle the country stands for, and call you a Communist post-Soviet mole for even suggesting it. OK. Then ask him if that same government agency should control foreign exchange, mainly the rate of the dollar against the euro and the Mongolian tugrit. Same reaction: this is not France. Then very gently point out to him that the Federal Reserve Bank of the United States is in business of controlling and managing the price of another good, another price, called the lending rate, the interest rate in the economy (and has proved to be good at it)." (Taleb 2012, p. 39)

Here he is clearly following Friedrich A. Hayek's criticism of central bank monetary policy:

> "As has sooner or later happened everywhere, government control of the quantity of money has once again proved fatal." (Hayek 1976, p. 14)

> "All that has been contended is that the kind of full employment which can be created in this way [by means of monetary expansion] is inherently unstable, and that to create employment by these means is to perpetuate fluctuations." (Hayek 1976, p. 11)

But, as explained, conventional monetary policy – keeping inflation stable with interest rates – has nothing to do with controlling the quantity of money.[1145] As for the destabilizing effects of excess, *government-backed liquidity*, Hayek's concerns are likely valid.[1146]

Taleb, like Hayek, is making the mistake of viewing dollars as "goods" (commodity-like assets in themselves[1147]) when the main function of the dollar (or euro or any national currency) is to serve as a *unit of account* to which credit contracts can be tied to make their purchasing power predictable. And the usefulness of such a unit is based and dependent on the fact that it is tied to the general price level. If its market value were allowed to fluctuate freely and unpredictably, it would practically lose its main purpose of existence.[1148]

> *"The convenience of use is decidedly in favour of a currency which can be expected to retain an approximately stable value." (Hayek 1976, p. 20)*

All assets have a level of "moneyness" (i.e. liquidity and acceptability[1149]) and we could then just as well use any financial assets as money by transferring them to others. It might become preferable to receive payments in stocks, shares in broadly diversified funds, or food commodity futures. What makes deposits denominated in dollars and euros (e.g. bank account deposits) so superbly liquid – in addition the payment services that banks provide – is that they are perceived as risk-free investment options, which allows determining prices

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1145 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".
1146 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".
1147 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".
1148 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".
1149 See: "1.2.1 Money Facilitates Trade through Liquidity and Broad Acceptability".

Continued on page 239 ▶

long in advance and removes the need to hedge[1150] the risks of any received balances. Their risk-freeness is dependent on (1) the government deposit guarantee (which eliminates the bank's default risks for its creditors in the case of bankruptcy), and (2) the central bank promise of price stability (which eliminates market risks).

Another way to see it is that the central bank executes the role of the market interest rate mechanism, which simply does not work by itself with a "commodity money" of inelastic supply.[1151] If Nassim Taleb (or anyone, really) can come up with a purely market-based mechanism for determining a market interest rate that keeps the total "demand for being in debt" and "demand for holding credit"[1152] in balance, we'd be very interested in hearing more about it so that we can render central banks redundant.

But, as such, there is nothing destabilizing or "fragilizing" about having a central bank that keeps inflation – the development of the purchasing power of this unit of account – stable and predictable, as long as it only does so by controlling its policy interest rate, government debt levels are kept in check[1153] and holding excessive amounts of liquid deposits is discouraged.[1154]

Other concerns with the power of central banks and public monetary policy, such as regulatory capture, are discussed in "4.2.5.2 Objective and Reliable Monetary Policy – Neutralize Human Judgment to Avoid Regulatory Capture".

1150 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".
1151 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'" and "2.2.2.1 A Single Precious-Metal-Standardized Currency".
1152 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".
1153 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".
1154 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further

In short:

- ***If the government wants to spur economic growth and domestic monetary net saving simultaneously without increasing government debt, this can only be done through a positive current account balance – i.e. the national economy must indebt other national economies.***
- ***A current account surplus can be maintained through protectionist policies on imports or maintaining price competitiveness through currency devaluation or "wage raise restraint" (a.k.a. "internal devaluation").***

> "After all, the rhetoric of competitiveness – the view that, in the words of President Clinton, each nation is 'like a big corporation competing in the global marketplace' – has become pervasive among opinion leaders throughout the world." – Paul Krugman (1994, p. 29)

> "[People/voters] underestimate the benefits of interaction with foreigners. I call this *anti-foreign bias*." – Bryan Caplan (2007, p. 1)

> "[T]he traditional solution to the problem of overproduction and underemployment is to somehow generate economic growth, which means increasing demand for new goods and services. One way to do that is through exports; obviously, this solution cannot work for the planet as a whole." – Charles Eisenstein, Sacred Economics (2011)

When a government does not want to take on more debt or impose lower interest rates on its citizens, one way to increase demand for work without increasing domestic spending is to maintain a *current account surplus* by either (1) selling more overseas – exporting more than the country imports, i.e. strive for a "balance of trade" surplus – or, (2) receiving more dividends and interest (factor income) from overseas than is paid out of the economy or (3) attract wealthy immigrants or other asset transfers. As explained in "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage":

Investing – Saving + CurrentAccount = 0

(Or, in the discrete model, Investing – Saving + CurrentAccount = EconomicGrowth.) The most straightforward way to boost exports is to increase the country's price competitiveness. In the long run, this could be achieved by increasing productivity[1155] by e.g. investing in education, but increased relative productivity (compared with other countries) does not increase competitiveness if real wages – and thereby labor costs – in foreign currencies rise faster. And under freely floating exchange rates, increases in relative productivity tend to raise a nation's currency's foreign exchange rates, as this allows that currency to buy more and better goods.

Therefore, countries with strong competitiveness policies aiming for trade surpluses usually attempt to keep their currencies undervalued or impose some form of "wage discipline". Systematically lowering wages is also referred to as "internal devaluation". The common practice of countries devaluing their currencies one after another is called a *"currency war"* and the European Monetary Union could be seen, historically, as an attempted "truce" in such a currency war. (Korkman 2012, p. 188)

Other than increasing overall competitiveness, countries can also focus on blocking imports from other countries to protect domestic production, which is referred to as *"protectionism."* Tools used include tariffs, requiring trade licenses or cooperation with a locally owned company or subsidizing a local industry. Also the "chit" or "import certificate" system suggested by Warren Buffett (Stiglitz 2012), where anyone wishing to import a good would need "chits", which can only be acquired by exporting something, is one theoretical way of limiting imports.[1156]

Regardless of the means used, maintaining a constant trade surplus is not globally sustainable. As explained in "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage", the sum of all nations' current accounts is zero. It is the global level equivalent of constantly indebting your friend further, and it eventually starts damaging even the economies of the surplus countries, as deficit economies become unstable and thereby worse export markets and eventually start defaulting on their debts.

The eurozone debt crisis is smaller-scale proof of the unsustainability of mercantilist competitiveness politics and sustained trade imbalances. While Mediterranean countries were irresponsibly raising wages through reckless public spending and union pressure, countries like Germany, Netherlands, Denmark and Finland were conducting strict competitiveness politics and wage discipline. Although, the "losers" in this case can be thought to have lost partly on purpose, the crisis is still equally the result of Germany "winning the economy war" within Europe. Europe's overall trade with the rest of the world has remained pretty well in balance. Now the "economically responsible" countries are paying the price for their own saving by having to forgive significant parts of the debts of the countries that they have let become indebted.

Joseph Stiglitz has noted that trade imbalances lower global aggregate demand – hamper total economic development.[1157] This functions a bit like income differences within nations: The more unevenly income is spread, the bigger a share of it is saved because people's marginal propensity to save tends to be rising,[1158] i.e. the more you earn, the bigger part of your income you save. While the creditors in net creditor nations have no incentive to let go of their credit, debtors soon are unwilling or unable to take on further debt to keep on spending more than they earn.

Stiglitz also notes how imbalances impose direct costs on deficit nations. Most notably this means overseas interest payments. Achieving a net creditor position and then balancing the current account could be a slightly more "sustainable" form of winning the economy war – keeping a "colonial leash" on net indebted countries without letting them default. The creditor country could import cheap resources and even pay for most of them with the

1155 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

1156 Buffett, Warren, "America's Growing Trade Deficit Is Selling The Nation Out From Under Us. Here's A Way To Fix The Problem – And We Need To Do It Now", Fortune, 10th Nov 2013, cited 3.11.2013, http://archive.fortune.com/magazines/fortune/fortune_archive/2003/11/10/352872/index.htm

1157 "There are very large and important macroeconomic externalities... policies of one country have effects on others which are not fully taken into account. Surplus countries for example lower global aggregate demand..." – 19:35->, "Is mercantilism doomed to fail 4/5?" presentation by Joseph Stiglitz, viewed 3.3.2013, http://www.youtube.com/watch?v=D207fSLnxHk

1158 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

interest it receives on the debtor country's debts (which is pretty much what has been done to many developing countries (Perkins 2005)).

But this kind of neo-mercantilism/neo-colonialism could hardly be considered to be fair or socially responsible politics on a global scale, nor optimal for the "winning" countries' own economic development, as preventing the other countries' economies from growing limits the potential trade that could be conducted and thereby the potential for innovation and gains from specialization and comparative advantage.

I would *not* agree with Paul Krugman (1994, p. 44) that

> "competitiveness is a meaningless word when applied to national economies."

Competitiveness (price competitiveness) does matter. But "winning" in the (price) competitiveness game (achieving a sustained absolute advantage) is almost as much losing as "losing" in it is. Countries are not meant to drive each other out of business (bankrupt), like businesses are trying in their constant survival battle.[1159] It would benefit the economic development and security of all nations and increase global economic stability if the price competitivenesses and trade imbalances between nations would be allowed to balance themselves out in the mid-term by allowing productivity gains to turn into living-standard gains through higher real wages.

Countries (both as in "governments" and as in "national economies") are neither kolkhoz type collective farms like the ones they had in the Soviet Union or companies that are meant to maximize profits or "work together" for some greater, common end or compete against others. Countries are more like leagues or referees than football teams. They are rather meant to provide a fair *platform* for the ruthless competition between companies (over employees, customers and investors) and for people to pursue their own preferred lifestyles. There is nothing wrong with each agent in the economy having its own agendas, objectives and values and wanting to be a bigger or smaller part of the economy.[1160]

If countries are intended to compete with each other over something, then they should be competing over citizens – not over investments, production or companies. Such a system of "rival governance forms" could be considered as one alternative or complement to democracy. However, such a system does not make much sense if people are not free to move between countries and change citizenships (immigration is currently very restricted) and if there is no fair way of transferring land and other natural resources between such competing governance forms with the immigrants.[1161]

Advocates of competitiveness politics (and users of the "competitiveness rhetoric") have attempted to redefine competitiveness e.g. as "the ability of a country or location to create welfare" (Aiginger 2006, p. 161), in which case "the greater competitiveness of one country must not necessarily go hand in hand with lower competitiveness in other countries." (Aiginger 2006, p. 161). This kind of "competitiveness" could be seen as "competitiveness over people" although Aiginger's more precise process evaluation tends to associate "welfare" fairly tightly with "real income", i.e. (material) "living standards".[1162] However, calling "living standards" "competitiveness" is very misleading, and sounds like another sneaky way – a kind of doublespeak – of justifying the sustaining of long-term current account surpluses, as has been the trend in e.g. Finnish and other European political rhetoric for decades. (Heinonen et al 1996; Krugman 1994, p. 28-29) [1163] [1164] [1165]

The competitiveness politics of developed countries is the root cause of sustained poverty in developing (or should we rather say, "underdeveloped") countries: The only way for them to get out of debt would be for the developed countries to let their current account balances drop negative, and the only way for them to improve their living standards would be to increase their labor productivity – both of which are strongly against the current agenda of the developed world. More on this in "3.3.1 Solving Poverty for Good – Ending the Economy War".

1159 See: "1.1.9 Companies as Competing Organizational Forms".

1160 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

1161 See: "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".

1162 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

1163 "EK:n Kokkila: Kaikkien oltava mukana kilpailukykytalkoissa", YLE, 4th Jan 2013, cited 4.6.2013, http://yle.fi/uutiset/ekn_kokkila_kaikkien_oltava_mukana_kilpailukykytalkoissa/6437315

1164 "Kilpailukyvylla työtä ja hyvinvointia", Nurmijärven Uutiset, 6th Dec 2012, cited 4.6.2013, http://www.nurmijarvenuutiset.fi/artikkeli/195401-kilpailukyvylla-tyota-ja-hyvinvointia

1165 Pentikäinen, Mikael, "Kansakunnan pelastamisen hetki", Helsingin Sanomat, kolumni, 2nd Dec 2012, cited 4.6.2013, http://www.hs.fi/paakirjoitukset/Kansakunnan+pelastamisen+hetki/a1354342089751

2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs

In short:

- *Post-Keynesians can be credited with Modern Monetary Theory and many important implications thereof, such as the three-balance identity. However, their policy conclusions are very questionable and quite populist.*
- *Post-Keynesians focus fiscal stimuli more directly at job creation and suggest that the government should act as an "employer of last resort" (ELR), providing a "true minimum wage".*
- *"Functional finance" judges public economic policies only by their (immediately visible) effects on the economy and suggests a greater role for fiscal policy in both combatting cyclicity and controlling inflation.*
- *These policies assume that people always want full-time employment and constant economic growth as well as omit the non-linearity of the effects of government indebtedness on inflation risks. As a result, they are overly optimistic about the government's ability to control inflation through fiscal policies (especially to tax large sums off the market effectively under fears of hyperinflation).*
- *An ELR policy is also likely to hamper structural adaptation and spur inflation pressures, raising the balance interest rate (and hence returns on capital). If the ELR wage is inflation-indexed, it may lead to hyperinflation in itself even with low levels of public debt.*

> "All that has been contended is that the kind of full employment which can be created in this way [by means of monetary expansion] is inherently unstable, and that to create employment by these means is to perpetuate fluctuations." – Friedrich A. Hayek, Choice in Currency: A Way to Stop Inflation (1976, p. 1)

> "[T]he most powerful trait Minsky shared with Keynes was that neither of them were Keynesians." – Robert J. Barbera, Preface to "John Maynard Keynes" (Minsky 2008, p. vii-viii)

As will be discussed in more detail in "5.2.4 The Religious Nature of Economics and Politics", economic schools tend to have an interest group or political ideology they are supporting. Whereas Austrian economics is a right-wing populist school and its theories are broadly utilized by many libertarians – especially anti-statist anarcho-capitalists – to justify their policies, the Post-Keynesian school considered to be quite a left-wing populist school. Therefore, its suggestions could also be under "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)". But they aren't really suggesting "money for free", and it is easier to explain their suggestions after familiarizing the reader with the mainstream version of (and justifications for) Keynesian fiscal stimuli.[1166]

Post-Keynesian economists deserve the most credit for their work on Modern Monetary Theory (MMT), the body of most recent research on neo-chartalist theories, which forms one of the best understandings of the nature and mechanics of our current credit money system. MMT forms such an integral part of Post-Keynesian theories (Lavoie 2011, p. 2) that "Post-Keynesian" and "neo-chartalist" are almost used interchangeably. This is sad because, while the MMT analysis of money and banking is very valid and credible, the policy suggestions that Post-Keynesians like to draw from it make far less sense. And Marc Lavoie agrees, that although "the neo-chartalist analysis is essentially correct", "neo-chartalists end up using arguments that become counterproductive" (Lavoie 2011 p. 25).

As explained in "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'," "chartalism" is derived from the Latin

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1166 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

word "charta" (tokens). (Knapp 1924)[1167] In the chartalist view, money is always a debt relation – a social contract – usually enforced by the government. Any physical money is tokens representing credit, and the "creation of money involves the acceptances of another party's debt." (Bell 1998, p. 5)

Marc Lavoie sums up the main concerns and arguments of "neo-chartalists" as follows:

- The **origins of money** as dictated and enforced by the state ("chartalism" over "metallism")
- The suggestion of the role of the state as the **Employer of Last Resort** (ELR)
- The reassertion of the **importance of fiscal policy** relative to monetary policy – resurrecting its role in **functional finance.**
- Emphasizing the "**three-balance identity**" put forth by Wynne Godley[1168], meaning the mathematical accounting fact that the private sector of a region can only accumulate (financial) assets in net if the public sector goes into debt or the region has a positive current account balance (i.e. it indebts other regions). (Lavoie 2011, p. 4)

Of these, the three-balance identity and the general credit nature of our current money system are something every economist or anyone else interested in economics should read into. Of course the chartalist version of the origin of money is also a useful alternative perception, as stories have a very strong influence on people's attitudes and intuitions, and as the dominance of the "metallist" or "orthodox" theory of the origins of money is a significant barrier to understanding the nature and possibilities of the current credit money system.[1169]

To this list of credits, we should definitely add abandoning the Quantity Theory of Money[1170] and emphasizing the facts that, in the world of electronic credit money, the money supply is *endogenous* in that the central bank has hardly any control over it.[1171]

However, the normative suggestions adopted from Abba Lerner (1943)[1172] of "functional finance" – increasing the role of fiscal policy in controlling cyclicity and inflation – and that the government should provide a job guarantee (the "ELR" policy), call for some more critical scrutiny. Post-Keynesians often claim to be the ones following Keynes's tradition most closely although even John Maynard Keynes himself would probably object to fiscal stimuli in the current situation (Keynes 1936, p. 71), while Post-Keynesians consider it to be the number one solution to unemployment in almost any situation. As this was discussed under "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably", here we will focus on the ELR or "job guarantee" scheme.

"Traditionally", fiscal stimulus packages have been executed by either (1) reducing taxation and hoping that the private sector increases spending, or by (2) the government making public investments earlier instead of later by borrowing more. In the Post-Keynesian ELR version, the government guarantees a minimum wage job to everyone who cannot find employment on the private market. (Tcherneva 2012) This could be targeted more regionally to where employment is scarce and would provide a "true minimum wage", as a "regular" minimum wage does not guarantee the unemployed wages at all. This policy can be argued to be a better option than social support in many ways:

- It doesn't reduce the motivation for other work as much.
- The government gets (sometimes) useful labor in return for the costs.
- It sustains the employees' capabilities and working morale better and allows developing skills on the job.

However, there are a few major concerns with the ELR policy.

Firstly, there is the problem of *shirking* – not putting full effort into the job and potentially doing less than agreed. A job guarantee apparently still allows firing, but if this is to work as a real "job guarantee" and "true minimum wage", this firing threshold must be quite high. Additionally, if everyone in these jobs is paid exactly the same regardless of how well they do their job, there is little incentive for the workers to do their best and be innovative in developing whatever service they are providing or investment they are building.

1167 It seems Marc Lavoie makes a mistake here when he proclaims that "This theory is called chartalism because the definition of money is proclaimed by the State, and the ability of banks to produce money is granted by charters" (Lavoie 2011 p. 3)

1168 Godley, Wynne, 1999, "Seven unsustainable processes: Medium term prospects and policies for the US and the World", Levy Institute Strategic Analysis, January http://www.levyinstitute.org/pubs/seven-pre.pdf

1169 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".

1170 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1171 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

1172 Lerner, Abba, 1943, 'Functional finance and the federal debt', Social Research, vol. 10, pp. 38-51.

Also, there would surely be more competition over some jobs provided by the government than others, as the "true minimum wage" prevents the wage mechanism from balancing supplied and demanded amounts between these.[1173] The choice over who gets to do what job is likely to become somehow corrupted (strongly influenced by personal relationships with or political favors conducted for public officials) or cause envy among the employees – which further reduces their working motivation. This makes the minimum wage idea problematic. This could be avoided by (1) paying employees the market price for different kinds of work and (2) allowing adjustments of wages according to the person's performance.

Secondly, wages and income differences exist to encourage people to acquire skills of which there is a deficit. These government jobs would have to be fairly low-skilled jobs for them to be suitable for everyone. And many of the jobs in which public sectors currently have large deficits do require at least some training as well as involve high responsibility, elderly care and nursing as examples. Moreover, technologies evolve, and even services are often automated. Therefore, in the future, an increasing portion of types of work will require people to constantly upgrade their skills and knowhow.[1174] Providing guaranteed, low-skilled jobs lowers people's incentives to acquire such new skills. The persistent labor deficit in jobs requiring more scarce skills then results in yet stronger upwards pressure in wages.[1175] This again increases income differences. If the minimum wage is tied to the price index[1176] (i.e. it is adjusted for inflation), this causes accelerating inflation, which causes serious problems.[1177]Advocates of ELR policies claim that ELR policies would stabilize the price level because:

> "the ELR hourly wage pins down a basic conversion rate between labor and the currency. In other words, a $10/hour ELR wage, for example, anchors the currency in labor power and sets the value of the dollar to be equal to six minutes of work." (Tcherneva 2012, p. 5)

> "To the extent that wages are a cost in every producible and reproducible commodity in the economy and the ELR program stabilizes them at the bottom, the program would also help stabilize prices." (Tcherneva 2012, p. 4)

However, the ELR wage does not set the *average price* for an hour of work in general, but only that of the unskilled work purchased by the ELR system. Hence, growing structural imbalances (which the ELR policy encourages and sustains) can – and would be likely to – cause *average wages* to rise significantly.

If this "true minimum wage" is not tied to any index, its real purchasing power ends up settling at a market price level as a result of inflation, resulting from the wage pressure in deficit fields. So, to achieve the same result without harmful, unpredictable inflation, why not just pay these employees individually according to their productivity and the market price of different kinds of work to encourage them to develop skills that are needed on the market and to do their best?

Thirdly, there is the constantly increasing threat of hyperinflation due to massive liquidity resulting from excessive "functional finance." (Huebscher 2011) As the idea is that the job guarantee also works as a stimulus, it is funded through government deficits, instead of increasing taxation. And not by selling bonds to the private market, but simply issuing new liquid credit – money – by "borrowing" it directly from the central bank. The Post-Keynesian view is that we should not be concerned about the debts of governments with their sovereign currencies, as they can borrow as much as they want from the central bank – i.e. from itself, as the central bank can be considered to be financially a government institution. In this case, interest costs need not be worried about either, as all interest collected by the central bank is returned to the treasury (except in the silly case of the FED which also pays dividends, although relatively small, to private member banks[1178]). And, yes, when Post-Keynesians say that "the government does not need to finance itself through taxation," they are correct in that *liquidity* would not be an issue for the government if it weren't made so with political restrictions (e.g. requiring it to borrow through the market). However, this does not make government *solvency*[1179] irrelevant – quite the contrary.

1173 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "3.2.2 Unfair Income Differences and Limits to Social Mobility"

1174 McAfee, Andrew, 2013, "What will future jobs look like?" TED Talk, viewed 17.6.2013, http://www.ted.com/talks/andrew_mcafee_what_will_future_jobs_look_like.html

1175 See: "3.1.3 Structural Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1176 "Although it should not compete with wages in the private sector, some argue that it should be set at the living-wage level that establishes a minimum wage–benefit standard for the economy (Tcherneva 2006, p. 4)

1177 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

1178 "Overview of the Federal Reserve", The Federal Reserve, p. 12, retrieved 4.3.2013, http://www.federalreserve.gov/pf/pdf/pf_1.pdf "Federal Reserve Act: Section 7", the Federal Reserve, cited 4.3.2013, http://www.federalreserve.gov/aboutthefed/section7.htm

1179 This is yet another case – together with e.g. pension systems, banking and the impacts of foreign aid – where understanding the difference between liquidity and solvency ("1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks") would be crucial. See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated" and "3.3.1 Solving Poverty for Good – Ending the Economy War".
This is why e.g. arguments that the government needs to sell off its property to reduce its deficits or public debts is utter non-sense: Turning real assets (like real estate or company stock) does not make the government any more solvent: Although debts might be cut, so would collateral (and potential income from these real assets). However, there are other good arguments for reducing government involvement and ownership of certain types of assets (other than natural resources and natural monopoly

As the three-balance identity says, the only reason the government has to go into debt to keep total demand for labor "sufficient", is that the private sector is saving money excessively (assuming that the country's current account is in balance[1180]). If the government keeps on spending more liquid credit into existence while keeping inflation low, this constantly increases the amount of liquid credit in the system – liquid credit not backed by private debt. These piled up savings increase the risk of sudden, uncontrollable hyperinflation resulting from everyone starting to spend more – and/or reducing the work they are willing to supply – simultaneously (due to e.g. the fears of longer-term unemployment being relieved or a loss of faith in the central bank's ability to prevent inflation from eating up the value of savings).

The idea that inflation could be kept in check in any situation with fiscal policy is quite naive. Firstly, as discussed under "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks', a democratic government is way too slow to change taxation to react to inflation expectations – and especially to already observed inflation.

> "[T]here is the political economy problem of adjusting G[government expenditure] and t[taxation] to hit the targets. Adjusting policy instruments, especially fiscal instruments, is politically contentious and subject to unpredictable inside and outside lags (Friedman, 1961)." (Palley 2014, p. 12)

And even if it weren't, the government cannot cut down on all its expenditure (as some of its spending actually is necessary to keep the society running), and its ability collect taxes in the current taxation system is very limited. As the taxation systems of many countries are heavily dependent on taxing work and other transactions,[1181] increased taxation is likely to further reduce the supply of labor – when we would need to *increase* the supply of labor relative to aggregate demand in order to fight inflation.[1182] It would be completely impossible for the government to tax tens of thousands of dollars per capita out of the market within weeks, which is what a country with hundreds of percent of GDP in national debt (like Japan currently) might have to do if all its citizens suddenly lost trust in their savings maintaining their value. An issuer of money, or any other liquid tokens of credit, wanting to maintain the reliability of those tokens has to keep the amount of liquidity out on the market in proportion to its own flexibility in providing services for that money (or other way of earning it back, such as taxation), as explained through the restaurant gift card analogy in "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

Trying to treat deflationary pressures and unemployment with fiscal deficits is what Nassim Nicholas Taleb might compare to "shorting an out-of-the-money option".[1183] [1184] The whole idea of "functional finance" is that:

> "government fiscal policy... shall all be undertaken with an eye only to the results of these actions on the economy" (Lerner 1943, p. 354)[1185].

However, the trouble is that the effects of increasing risks and volatility are not immediately observable but instead strongly non-linear.[1186] And contantly rising government debt significantly increases the *risk* that the government won't be able to fight inflation by increasing taxation or raising rates. Similarly to how people prone to alcoholism should stay away from alcohol and people who feel they need an(y) intimate relationship to survive should first learn to live meaningfully by themselves to avoid ending up in mutually harmful codependence-natured relationships, the government should only undertake fiscal stimulation if it knows it has a credible enough tax base to be able to run surpluses regardless of economic trends.

When a big share of the credit in the economy is backed by government debt, also the central bank loses its power to combat inflation. It can raise the control interest rate, which works fairly well when inflation is caused by excessive borrowing for investments, but is less effective

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industries, see: "4.3 Eliminating Private Monopolies and (Other) Privileges").

1180 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

1181 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

1182 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1183 "He [Randall S. Kroszner, former member of the Board of Governors of the Federal Reserve System of the United States] reminds me of those people who sell options, sell [an] out-of-the-money option and claim that its safe. And in this case, this guy not only is claiming that it's safe, but is saying that it's a thing to do for insurance purpose[s]."
"You short an out-of-the-money option on hyperinflation." ... "Just like a ketchup bottle: you're pouring and nothing's coming out and then you can make a statement like Bernanke that you have evidence that this is working – that there is no risk. And then suddenly – just as with an out-of-the-money option – the whole ketchup..." (Interviewer)"Coats your french fries?" (NNT) "Everything, the whole table, everything, your face, everything, the thing explodes. This is the problem of non-linearity – that the economics establishment has not been able to understand."
– 3:08-> & 3:54->, "Nassim Taleb Rips Ben Bernanke, the Feds and QE2.flv", Interview on Bloomberg Business, viewed 15.5.2013, http://www.youtube.com/watch?v=6rHijY1QQdw

1184 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

1185 The central idea is that government fiscal policy, its spending and taxing, its borrowing and repayment of loans, its issue of new money and its withdrawal of money, shall all be undertaken with an eye only to the results of these actions on the economy and not to any established traditional doctrine about what is sound and what is unsound. This principle of judging only by effects has been applied in many other fields of human activity, where it is known as the method of science opposed to scholasticism." (Lerner 1943, p. 354)

1186 "Non-linearity", entry, Investopedia, cited 13.6.2013, http://www.investopedia.com/terms/n/nonlinearity.asp

when the problem is excessively fast spending of savings. In such an uncertain situation, bank deposit interest rates are unlikely to rise (fast) enough with the central bank's policy interest rate to offset potential inflation fears and increase saving to prevent aggregate demand from surpassing the aggregate supply of labor. Also, with lower amounts of private debt, it is harder to squeeze more willingness to save out of debtors with higher interest costs.

We should probably replace the Quantity Theory of Money with a "liquidity theory of instability".

So, instead of the government facilitating excessive private monetary saving by taking on debt, it makes far more sense – and would be far less risky – to quench the private need for saving (i.e. to balance aggregate demand with supply) by dropping interest rates negative. The negative real interest rates can both eat up the value of existing credit and debt and also encourage deleveraging through spending and investments. Fiscal stimuli would at most be needed temporarily in the strongest and most unexpected ("black-swan-like") demand and supply shocks.[1187] [1188]

Lastly, Post-Keynesians – like most mainstream economists – take as given the objective of maintaining long-term economic growth at the level of productivity growth – i.e. keeping the whole population full-time employed.[1189] There is nothing that says that the participants of the economy really want this. What if the reduced spending was caused simply by people not seeing additional products and services worth their prices (the amount of work they require) and rather wanting to save for future free time? In this case the "output gap" (difference between current ouput and potential output) is not just a result of an uncertain economic environment, and private spending won't return back to previous levels. The government is hence doomed to maintaining a constant deficit until people lose their faith in their savings and, all at once, refuse to work – which results in the previously described hyperinflation. Any "downshifting" would hence result in nothing but a catastrophe.

Why not let the citizens themselves decide how much growth they really want? Or rather, how much growth each wants: How much one wants to specialize in one's own line of work and consume goods and services produced by others.[1190]

1187 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation".

1188 E.g. L. Randall Wray's skepticism toward the effectiveness of monetary policy was discussed in: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

1189 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1190 See: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

2.3 THE SOLUTION OF THE ROOT BUG HYPOTHESIS

2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!

In short:

- *Creating work has become an objective in itself – though labor is essentially a cost we should be aiming to minimize.*
- *Why do we need to create more work in order for everyone to be able to participate in that work? Why is the unit of labor a human being?*

"[People/voters] equate prosperity not with production, but with employment. I call this *make-work bias*." – Bryan Caplan (2007, p. 1)

"We want food, shelter, clothing, and all the things that money buys us. But do we all really want jobs? We're living in an economy where productivity is no longer the goal, employment is." – Douglas Rushkoff, Are Jobs Obsolete?[1191]

"Every intelligent workman tries to cut down the effort necessary to accomplish his assigned job." … "When providing employment becomes the end, need becomes a subordinate consideration." – Henry Hazlitt, Economics in One Lesson (1946, p. 38 & 18)

"In the argot of politicians, a 'job' is a commodity, like a pork belly, or a widget. 'We created eleventy-umpteen new jobs on my watch,' says the incumbent to raucous applause – as though they came freshly-stamped out from the line at the Acme Jobs Plant." … "The obsessive focus, in our political discourse, on 'jobs' is a clever way of diverting our attention from our true economic problems: unused land, wasted capital, huge fat gobs of monopoly privilege, and tax burdens that hinder enterprise." … "The extent to which we focus on 'jobs' is a good barometer of how unjust and wasteful our economy truly is." – Lindy Davies[1192]

"We keep inventing jobs because of this false idea that everybody has to be employed at some kind of drudgery because, according to Malthusian Darwinian theory he must justify his right to exist. So we have inspectors of inspectors and people making instruments for inspectors to inspect inspectors." – Buckminster Fuller

A major function of the whole market system with its fiercely competing companies is finding more efficient ways of doing things – giving us more with less. This includes eliminating waste, i.e. unnecessary work. Of course people can choose to prefer "more" to "with less" – to consume more products and services to offset the increased productivity, the reduction in needed labor. But why are we now so desperately wanting more work?

Futurists of a hundred years ago expected people of the 21st century to hardly work at all. Buckminster Fuller referred to this process of technological advancement constantly allowing us to do more and more with less and less until we can do everything with nothing as "ephemeralization". Of course, *that* 21st century has not come. Why?

Every time the amount of work decreased, there suddenly did not seem to be enough work for everyone to get to participate in it – some people were left outside the whole market, i.e. "unemployed." And what's even worse, any unemployment seemed to easily start feeding itself resulting in depressions and economic collapses[1193].

1191 See: Rushkoff, Douglas, "Are jobs obsolete?" CNN, opinion, 7th Sep 2011, cited 7.4.2015, http://www.rushkoff.com/blog/2011/9/7/cnn-com-are-jobs-obsolete.html

1192 Davies, Lindy, "Jobs", Work and Wealth, 7th Jan 2013, http://workandwealth.com/jobs/

1193 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemploy-

A major focus of economics and economic policy has hence been finding ways to maintain full employment: sustaining "sufficient aggregate demand" and closing any "output gaps", i.e. the difference between actual production and potential production. In other words, the objective is to keep the system running at its full production capacity.

In fashion terms, "jobs" is the "black" of election campaigns – the issue that never goes out of style. The politicians promising the most jobs most credibly are often the ones that get elected. Comparing presidents and administrations by how many jobs they "created" or "lost" is very common. In public discourse, jobs are talked about as if they were a valuable *"resource"* that needs to be *produced* at a cost – when fundamentally, labor *is* a cost that an efficiency-oriented economy should be minimizing![1194] The following quote is quite typical under our current job creation paradigm:

> "Fracking Jobs Cost Twice as Much as Green Jobs" ... "The most important is the perception that the $100 billion green stimulus program failed to deliver the jobs it promised." ... "But considering only projects within the Department of Energy itself, the best estimate is that about two hundred thousand one-year-long jobs (or their equivalent over longer time periods) were created by spending about $17 billion. This amounts to about twelve jobs per $1 million in spending."[1195]

For more examples of the importance and devastating effect of the "jobs" argument, see: "6.2.5 Appendix 2.5: The Tyranny of Jobs".

What sense does this objective of trying to create more work make? Wasn't the original idea to get rid of work? Of course it was also to give us more (products and services, i.e. a higher "living standard"), but even the neoclassical growth model accepts that also leisure has utility[1196] and that its utility can surpass that of additional products and services. It is more and more likely to do so, as living standards rise and people's basic needs[1197] are met.

Shouldn't the amount of work people do be determined by how much goods and services people deem they need – and consider worth the effort needed to produce them? Compare this to household chores. Would you try to use more dishes just so that everyone could get a dishwashing shift every week? If you buy a dishwashing machine that allows washing dishes more efficiently, would you try to get your family members or roommates to eat five-course meals *just to* maintain the previous amount of dishwashing work? Really? You would probably, instead, let people consider how many five-course meals per month are worth the additional work (of both cooking and filling the dishwashing machine).

Nor would you try to get family members or roommates to provide additional favors to each other as "chores" by any means to fill the time left by the reduced dishwashing work. Of course you might *allow* some members to trade their dishwashing shifts with others for other favors, but if no one requested such additional favors, you would let everyone participate in the remaining dishwashing and cooking work – and preferably according to how many common dinners they are able (or willing) to participate in, i.e. their "willingness to consume".[1198]

Henry Hazlitt had a lot of valid criticism towards this job creation orientation.

> "When providing employment becomes the end, need becomes a subordinate consideration. 'Projects' have to be invented. Instead of thinking only where bridges must be built, the government spenders begin to ask themselves where bridges can be built." (Hazlitt 1946, p. 18)

> "Each of us is trying to save his own labor, to economize the means required to achieve his ends. Every employer, small as well as large, seeks constantly to gain his results more economically and efficiently – that is, by saving labor. Every intelligent workman tries to cut down the effort necessary to accomplish his assigned job. ... The technophobes, if they were logical and consistent, would have to dismiss all this progress and ingenuity as not only useless but vicious." (Hazlitt 1946, p. 38)

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ment and Growth Dependence".

1194 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units" and "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1195 Pollin, Robert, "Let's Get Serious: Fracking Jobs Cost Twice as Much as Green Jobs", Alternet, 12th Oct 2012, cited 7.1.2014, http://www.alternet.org/economy/lets-get-serious-fracking-jobs-cost-twice-much-green-jobs?page=0%2C0

1196 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

1197 If we consider for example Abraham Maslow's hierarchy of needs, fulfilment of all but the first two levels (Physiological needs and Safety needs) are often far more limited by the amount of (freely allocatable) time available than access to consumption goods or services – especially when the internet has made the information needed for intellectual self-actualization very affordably available. This is not to deny that one's own labor can also provide a sense of Belonging, improve one's Self-Esteem and facilitate Self-actualization. (Maslow 1943)
– McLeod, Saul, 2007, "Maslow's Hierarchy of Needs", SimplyPsychology, cited 4.4.2014, http://www.simplypsychology.org/maslow.html

1198 Of course a family often works much better as a Gemeinschaft type community (see: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt") where everyone participates purely out of their affection for others and their will to contribute, but for example among flatmates with less empathic ties, such trading of chores might be the fairest and most functional arrangement.

"That may have been all very well in the past; but today conditions are fundamentally different; and now we simply cannot afford to develop any more labor-saving machinery.' Mrs. Eleanor Roosevelt, indeed, in a syndicated newspaper column of September 19, 1945, wrote: 'We have reached a point today where labor-saving devices are good only when they do not throw the worker out of his job.'" (Hazlitt 1946, p. 37)[1199]

In his book "Arbetssamhället" (freely translated as "work society"), Ronald Paulsen points out how productivity has increased significantly while we still work as much as before. In the "work society", people don't work to produce things but work has become an end in itself. As a result of this "work ideology", work is emptied of content and meaning. (Paulsen 2010)[1200]

In his TED Talks "Are droids taking our jobs?"[1201] and "What will future jobs look like?"[1202] Andrew McAfee makes the case that the development of labor productivity that technology facilitates is not decreasing, but instead about to enter a completely new era with artificial intelligence developing and allowing both further automation of knowledge work and androids that can take over persistently labor-intensive service sectors. (Brynjolfsson & McAfee 2011) Although statistics would show smaller productivity gains for the past decade than for most of the latter half of the 20th century, it could be argued that:

- implementing new technologies that could increase productivity are hindered by the difficulty of reducing labor for companies (and the public sector) and the availability of cheap labor from developing countries[1203] hindering e.g. automation investments, and that
- a big part of the productivity gains are not visible in major productivity metrics and, instead, look like shrinking markets and inflation.[1204]

Erik Brynjolfsson lists such productivity measurement issues as one potential explanation for the "productivity paradox" of information technology. For example:

> "[T]he sorts of benefits ascribed by managers to IT – increased quality, variety, customer service, speed and responsiveness – are precisely the aspects of output measurement that are poorly accounted for in productivity statistics as well as in most firms' accounting numbers." (Brynjolfsson 1993, p. 10)

Another factor is that new technologies often appear as completely new services, replacing and offsetting previous services and industries or things people previously did unpaid for themselves, which does not allow them to be visible in price indices, but makes it instead appear as if services of less value are being bought and produced. E.g. Google Translate, instead of increasing the productivity manual translation services, might rather be replacing them and providing translation services to people who earlier had hardly any access to them.[1205]

In any case, it is likely that a big part of the skills required ("jobs") in our current economies will be obsolete in 20 years' time – unless we start restricting the development of technology and changes in people's consumption preferences. It is going to be extremely difficult to create new jobs at the same pace as old ones are eliminated. And even if that were possible, the structural adaptation process of getting people to move to these new professions is going to be really difficult (as long as the unit of labor remains a human being[1206]). McAfee optimistically points out that this development could allow people to be freed up to do many things for which they currently don't have time, like solving global sustainability challenges. But will it when we are trying to keep them full-time occupied in paid work by any means possible?

The fact that earning opportunities don't meet people's willingness to spend and invest – especially the fact that decreased total demand results in an increased mismatch, i.e. unemployment – is a *market failure* and trying to spur economic growth to decrease unemployment is *treating the symptoms* and pushing the problem on to the future. It is *not* fixing the

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1199 However, Hazlitt – a victim of the "commodity money religion" like other Austrian economists, Marxists and many others – still assumes that people will always be willing to spend any saved money on something else (Hazlitt 1946, p. 39), insists on considering monetary savings "real savings" (p. 165) and is lured by the idea that "banks lend on their depositors money" (p. 168) and that increased savings hence lower interest rates (p. 169), which has never been exactly the truth and is an entirely false assumption in our current credit money system. See: "1.2.6 'Fractional Reserve Banking', Interest and the 'Expansion of Credit'", "BOX: The Misleading Expression That 'Banks Lend Other People's Money'", "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

1200 Nesser, Johannes, "Det meningslösa arbetet", UNT.se, 27th Jul 2010, cited 5.6.2013, http://www.unt.se/kultur/det-meningslosa-arbetet-1003128.aspx

1201 McAfee, Andrew, 2012, "Are droids taking our jobs?" TED Talk, viewed 17.6.2013, http://www.ted.com/talks/andrew_mcafee_are_droids_taking_our_jobs.html

1202 McAfee, Andrew, 2013, "What will future jobs look like?" TED Talk, viewed 17.6.2013, http://www.ted.com/talks/andrew_mcafee_what_will_future_jobs_look_like.html

1203 The availability of cheap labor persists as developing countries are currently purposefully kept uncompetitive by lack of education and the protectionist-mercantilist trade policies of developed countries. See: "3.3.1 Solving Poverty for Good – Ending the Economy War".

1204 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

1205 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

1206 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

market failure. Just as a bottle of vodka is not a *cure* for alcoholism, but a treatment to its symptoms, managing to "create" a few jobs (with fiscal stimuli or some other policy gimmick[1207]) treats the symptom – unemployment – of our economies' growth dependence. It does not cure the dependence. It postpones the problems caused by the chronic mismatch in the supply and demand for labor (the Root Bug): Productivity continues to increase, technology to evolve and people's preferences to change, and soon we are going to have to, again, find new ways of creating more jobs.

This book is essentially trying to show that this whole "job creation paradigm" – together with the rhetoric focused on national competitiveness[1208] – has no clothes.

(This chapter was focused on the pointlessness of public policies that attempt to create work. Some point out that our current market economy produces a lot of non-productive, purely "distributive" activity – so-called "bullshit jobs" – also in the private sector. And they have valid points. These issues are discussed in more detail in "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".)

> "Most men would feel insulted if it were proposed to employ them in throwing stones over a wall, and then in throwing them back, merely that they might earn their wages. But many are no more worthily employed now." – Henry David Thoreau (Eisenstein 2011)

> "There's also a story about Milton Friedman visiting a Chinese construction project and asking his host why workers were using so many shovels and so few machines. Told that this was 'a job creation project', Friedman said: 'In that case, why don't you give them spoons?'" – George Magnus[1209]

> "Now, what happens, then, when you introduce technology into production? You produce enormous quantities of goods by technological methods. But at the same time you put people out of work. You can say 'Oh, but it always creates more jobs, there will always be more jobs.' Yes, but lots of them will be futile jobs. They will be jobs making every kind of frippery and unnecessary contraption, and one will also at the same time have to beguile the public into feeling that they need more of these completely unnecessary things, that aren't even beautiful. And therefore an enormous amount of non-sense employment – bureaucratic an otherwise – has to be created in order to keep people working. Because, we believe, as good protestants, that the devil finds work for idle hands to do. But the basic principle of the whole thing has been completely overlooked: That the purpose of the machine is to make drudgery unnecessary. And if we don't allow it to achieve its purpose, we live in a constant state of self-frustration." – Alan Watts[1210]

> "Yeah, the droids are taking our jobs, but focusing on that fact misses the point entirely. The point is that then we are freed up to do other things. And what we're going to do – I'm very confident – what we're going to do is reduce poverty and drudgery and misery around the world. I'm very confident we're going to learn to live more lightly on the planet and I am extremely confident that what we're going to do with our digital tools is going to be so profound and so beneficial that it's going to make a mockery out of everything that came before." – Andrew McAfee[1211]

1207 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

1208 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

1209 19:10->, "'Karl Marx was right'", panel discussion, viewed 8.1.2014, http://www.youtube.com/watch?v=QUaVeixiVLc

1210 22:02->, Watts, Alan, "Money and Guilt", lecture/speech, viewed 16.1.2014, http://www.youtube.com/watch?v=c7tlaF3dv_M

1211 13:14->, McAfee, Andrew, 2012, "Are droids taking our jobs?" TED Talk, viewed 17.6.2013, http://www.ted.com/talks/andrew_mcafee_are_droids_taking_our_jobs.html

2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest

In short:

- *If earning opportunities are determined by total spending and investing, shouldn't our focus be on getting earning opportunities directed to people according to their willingness to spend and invest – to get supply to meet demand on the individual level?*
- *By all logic, making this correlation (between earnings and willingness to spend and invest) independent of aggregate demand should both maximize the economy's potential for growth and eliminate its dependence on growth as well as mitigate the positive feedback loops causing economic cyclicity.*
- *That supply does not meet demand on the individual level in the labor market when total demand drops, is a market imperfection. Trying to create more work to avoid this (unemployment) is just pushing the problem forward – treating the symptoms, not solving the imperfection.*

> "Procrustes was an inn-keeper in Greek mythology who, in order to make the travelers fit in his bed, cut the limbs of those who were too tall and stretched those who were too short. But he had the bed fitting the visitor with total perfection." – Nassim Nicholas Taleb, Antifragile (2012, p. 81)

> "Now, it is perfectly reasonable for someone to argue that she wants to work longer hours if that is necessary to have a higher income – she would rather have another TV than one more week of holiday. And who am I, or anyone else, to say that the person got her priority wrong?" … "However, above a certain level of income, the relative value of material consumption vis-à-vis leisure time is diminished, so earning a higher income at the cost of working longer hours may reduce the quality of your life." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 109-110)

> "By the late twentieth century, however, the one-size-fits-all workplace that once so well fulfilled the needs of American workers became profoundly mismatched to the needs of the increasingly diverse and varied U.S. workforce." – Kathleen Christensen & Barbara Schneider, Workplace Flexibility: Realigning 20th-Century Jobs for a 21st-Century Workforce (2010, p. 1-2)

Mainstream economic policies try to prevent excessive saving as money by attempting to get people to spend and invest more. The objective is to maintain "sufficient aggregate demand".[1212] What would be the remaining way of preventing the excessive monetary saving by individuals that prevents others from earning their living?[1213] To decrease earnings. If the same people that spend less would also earn less, there would be no increase in net desires to save, nor an increase in debt. Total "economic activity" is of course reduced, but no one else's earning and spending opportunities are affected.

The progressive taxation and transfer payments supported by the political left could be seen as a way of directing income to those that need it more desperately. But this is hardly fair or encouraging anyone to be entrepreneurial in finding better ways to create value to others or to learn skills which are in higher demand[1214].

Additionally, the people earning more might also want to spend and invest the more. This is the case with many company managers: A lot of their wealth is in risk-carrying company stocks and real property and it is often also leveraged with notable amounts of debt (and quite a few are also scorned for their lavish lifestyles). There is no need to prevent people from earning and spending or investing more.

But instead of transferring income undeservedly from those who earn more to those who earn less, it would

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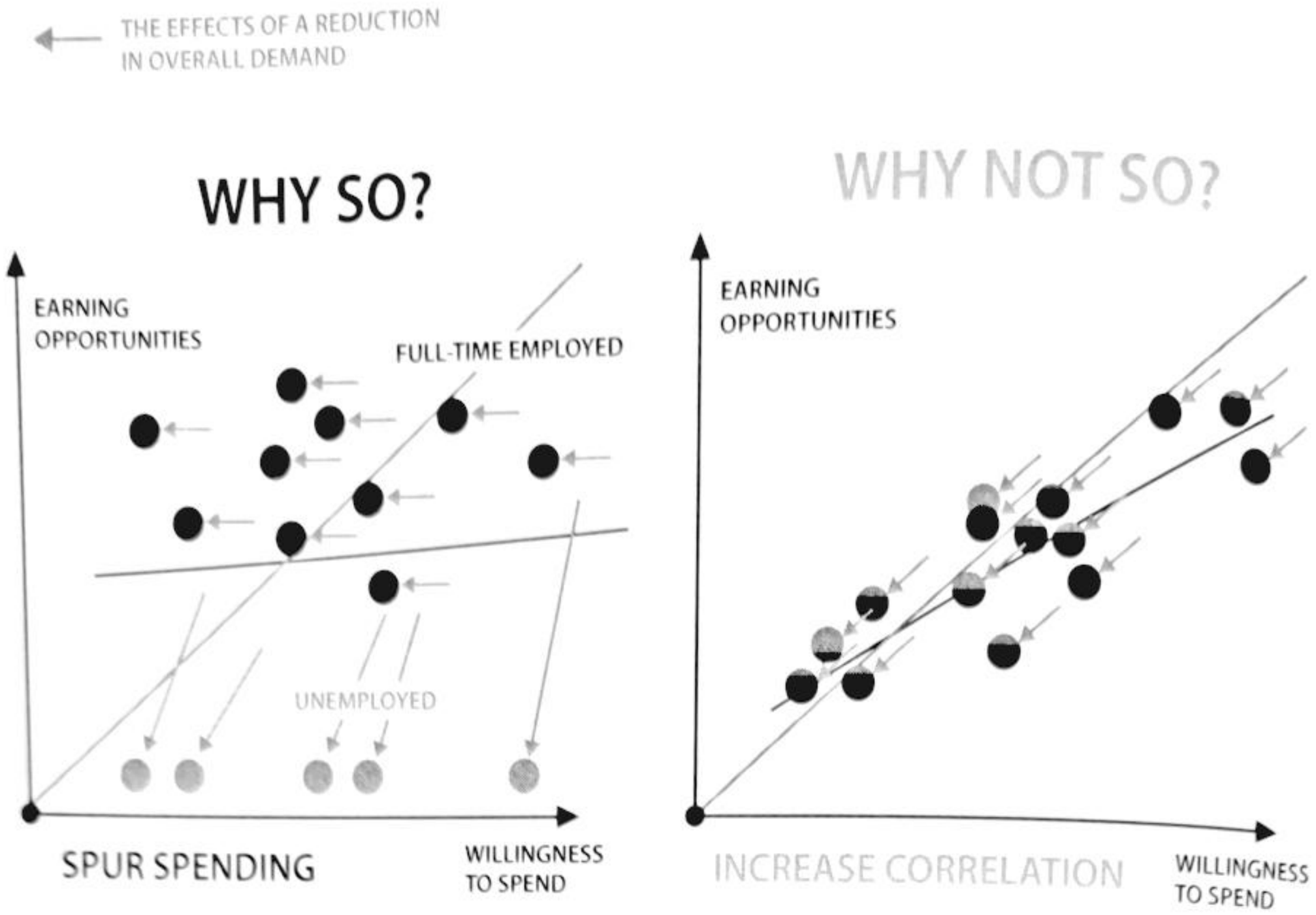
1212 See: "2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder".
1213 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
1214 See: "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)"



GRAPH 24: INCREASING THE CORRELATION BETWEEN INCOME AND WILLINGNESS TO SPEND AND INVEST – VERSUS TRYING TO CREATE MORE WORK.

make more sense to get *earning opportunities* (namely work) directed to those with a more desperate need for the income. If you want to reduce someone's income without paying him less for the same amount of work, the other option is to buy less work from him. Unlike price manipulation, this should not increase mismatches of supply and demand between different types of work – as the prices of units of work are not restricted or influenced in any way. By all logic and most economic theories, **maximizing the correlation between people's earning opportunities and their willingness to spend and invest should maximize the economy's potential for growth and simultaneously make it independent of growth – eliminating the positive feedback loops that make reduced demand result in recessionary chain reactions.**[1215]

Supply does not meet demand when everyone gets the same amount of earning opportunities, but when opportunities are distributed according to people's need for the income.[1216]

Allowing people to work (in the mid-term) as much as they really want to work will not only maximize the potential for economic growth,[1217] but also increase structural flexibility[1218] and unleash a lot of currently underutilized talent (or, rather, capabilities[1219]), as skilled people would less often need to reject a high-skilled career just because it would require devoting too much of one's life to work.

An arbitrary standard to which conformity is forced is referred to as a "Procrustean bed", along the mythology of the rogue smith (in some versions an inn-keeper, e.g. Taleb 2012, p. 81) called Procrustes who invited people to stay over at his house and either stretched them or amputated part of their legs to make them fit perfectly into his iron bed. The idea of a fixed amount of work per person – e.g. 40 h per week – is one of the most violent Procrustean beds of our era. It is only one side effect of this that people often have to choose their profession based on how much they want to work.

1215 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1216 This would practically make the economy work more like the neo-classical growth model expects it to: the model (in addition to assuming perfectly costless structural mobility) reduces all employees into one employee, i.e. assumes a perfect correlation between earnings and propensity to spend and invest.

1217 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1218 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "Sidenote Box 4148: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent".

1219 See: "Sidenote Box 4148: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent".

This assumption of a human being as the unit of labor is not new, but prevalent starting from the first words of Adam Smith's "An Inquiry Into the Nature and Causes of the Wealth of Nations", often considered a foundational work of economics:

> "But this proportion [of total produce to the number of those who are to consume it] must in every nation be regulated by two different circumstances: first, by the skill, dexterity, and judgment with which its labour is generally applied; and, secondly, by the *proportion between the number of those who are employed in useful labour, and that of those who are not so employed.* Whatever be the soil, climate, or extent of territory of any particular nation, the abundance or scantiness of its annual supply must, in that particular situation, depend upon those two circumstances." (*italics* added, Smith 1776, p. 8)

What about the average *amount* of work done by "those employed in useful labor"? Or rather – as a human being is not labor, the employable factor of production,[1220] but rather she is a *supplier* of labor – "what about the average amount of labor *employed* by those who employ their labor at all?" Karl Marx actually had a valid point in how classical economists tend to confuse "the laborer" with "labor."

> "That which comes directly face to face with the possessor of money on the market, is in fact not labour, but the labourer." (Marx 1887, p. 373)

"Perhaps nothing shows more clearly the enormous forces of production constantly going to waste than the fact that the most prosperous times in all branches of business that this country has known was during the civil war, when we were maintaining great fleets and armies, and millions of our industrial population were engaged in supplying them with wealth for unproductive consumption of for reckless destruction." ... "The waste of labor in marching and counter-marching, in digging trenches, throwing up earthworks, and fighting battles, the waste of wealth consumed or destroyed by our armies and fleets did not amount to as much as the waste constantly going on from unemployed labor and idle or partially used machinery." ... "It is evident that this enormous waste of productive power is due, not to defects in the laws of nature, but to social maladjustments which deny to labor access to the natural opportunities of labor and rob the laborer of his just reward. Evidently the glut of markets does not come from over-production when there are so many who want the things which are said to be over-produced, and would gladly exchange their labor for them did they have opportunity. Every day passed in enforced idleness by a laborer who would gladly be at work could he find the opportunity, means so much less in the fund which creates the effective demand for other labor..." – Henry George, Social Problems (1883, p. 108-110)

1220 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2.3.3 The Paralyzing Assumption: 'Work Sharing = Work Time Restrictions'

In short:

- ***Mainstream labor economics has a quite restricted view of labor flexibility and has made "work sharing" a synonym for "work time restrictions."***
- ***E.g. shortening the legal workweek has been shown to be ineffective in reducing unemployment in the long run. It would not eliminate cyclicity or income insecurity nor increase demand as the de facto unit of labor remains a human being.***

If you look up "work sharing" in almost any economics textbook (e.g. Layard et al 1991, p. 502), you will notice that this is almost directly equated with the restriction of work hours - making the legal workweek shorter. In fact, when someone mentions "sharing work" in the context of economics as a way of solving unemployment, the immediate assumption is that it would require work hour restrictions, and that the hopes of it working to reduce unemployment must be based on the "lump sum of labor fallacy". However, we could say that equating all "work sharing" with limiting the maximum amount individual people are allowed to work is based on the "lump sum of labor *per person* fallacy" - taking for granted a human being as the unit of labor.

Douglas Booth (2004) comes to the same conclusion - that work sharing means *more equal* sharing - in his analysis of our growth dependence in "Hooked on Growth", and it is also the main option presented by Tim Jackson in his famous book "Prosperity without Growth".

> "...[In Peter Victor's model of degrowth in Canada] unemployment is averted by sharing the work more *equally* across the available workforce.
>
> This is an important outcome. It is possible to avoid the damaging unemployment that follows from recession by sharing work more *equally* amongst the population.
>
> *Reducing the working week* is the simplest and most often cited structural solution to the challenge of maintaining full employment with non-increasing output. And there is some precedent for it, for example, from labor policies in certain European nations." (*italics* added, Jackson 2009, p. 80)

Jackson does vaguely mention increasing individual freedom to choose how much to work, but does not give any suggestions on how this could be incentivized and, on the other hand, encourages increasing rigidity by creating more secure "public green jobs" (Jackson 2009, p. 70-71).[1221] Jackson also mentions a citizen's wage as an example of "more radical suggestions for reorganizing work" [p. 72] Nic Marks (2011) of the New Economics Foundation also suggests "helping redistribute work throughout the economy more evenly" and that governments should "create good work."

A shorter legal workweek has been shown to be ineffective in combatting unemployment in the long run in both simulations with different economic models and practical experiences from many countries. This makes complete sense. After the shortened working hours, a human being - "an employee" and "a job" - still remains the unit of labor and thus:

- It would not provide any more economic security as the preferred way for a company to adjust its demand for labor would still be firing individuals. Thus the same risk of a recessionary chain reaction[1223] would apply and the basic problem of growth dependence would not be solved.
- It would not allow any flexibility according to individual consumption preferences or allow short-term adjustments with structural changes in required skills.
- It would also restrict growth - the total amount of economic activity - even if that was what consumers wanted or what was needed in order to for example develop and adopt more environmentally sustainable production methods.
- Also, the work time restriction is fairly easy to dodge, when both the employer and the employee still want to trade more work. In many industries, such as consulting, it is standard to mark 40 h per week into the official reports although no one really counts the hours and everyone spends closer to 50-70 h per week at the office, at the client or on the field. Thus, it would only cause income opportunities to be shared in professions where work hours are easy to measure - which most typically are low-skilled, uneducated jobs with already low incomes.

1221 "Public sector employment could be directed explicitly at 'green jobs'." (Jackson 2009, p. 70-71)

1222 For problems with this see: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

1223 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

Restricting work hours would only make sense if everyone's willingness to spend – excluding the need to save due to economic uncertainty – had dropped simultaneously by the same amount, which isn't a very realistic assumption. There are always some people who want to spend more, accumulate more material wealth, invest in entrepreneurial initiatives or otherwise carry the risks productive activities. And people with these kinds of ambitions exist in professions of all income categories although the propensity to save tends to be higher among those with higher income.[1224]

If we want to maximize wanted growth, we need to allow those willing to spend and invest more to also earn more, and we need to let those with a lower propensity to spend to work less.

When higher-paid overtime work is allowed, restricting the standard workweek does of course not completely prevent structural flexibility and growth. The higher cost of overtime hours does encourage companies to share work, but this extra pay, on the other hand, encourages employees to work more if given the opportunity – despite their immediate or long-term need for the income. Also this "progression" of labor costs is not continuous and does not encourage giving individuals the option of working less than the official full-time. On the contrary, companies will be even less willing to employ part-time workers, as full-time work is where overhead costs – and risks of labor reduction costs – per hour (or other unit of labor) are the lowest. When combined with high costs of reducing labor[1225] (like in France and the Nordics) or other high fixed costs per employee, companies are reluctant to hire new employees, even as an alternative to more expensive overtime work.

But is there a way to encourage both employers and employees to share work more flexibly according to everyone's need to spend and invest? A tax – instead of a legally required overtime raise – could make piling up work on fewer people less profitable and thus sharing a more viable option for employers, while not giving employees any extra incentive to work more to save up only for their own future, personal financial security or as a "Game". Such a "Pigovian tax" on "overcentralizing work" could also be continuously progressive rather than "stepped" between income brackets.[1226] However, even such a tax might be unnecessary if people had no fear of long-term unemployment and were in a position to demand higher marginal pay for additional tasks.

Although mainstream economics is fixated on work hour restrictions as the only way to "share work", other fields have studied different flexible employment arrangements extensively. Individual flexibility does not have to mean shorter workdays or workweeks, but it doesn't require the labor market to become a "spot market" either. Nor is it necessary to be able to measure work in hours – which e.g. in specialist and leadership tasks makes little sense. It could just as well take the form of longer holidays or sabbaticals between positions.[1227] Employment flexibility and forms thereof will be discussed further under "4.1.1.1 Forms of Employment Flexibility" and "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant".

1224 See, "permanent income hypothesis" (PIH) in: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1225 See: "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions".

1226 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

1227 Sagmeister, Stefan, 2009, "The power of time off", TED Talk, viewed 8.3.2013, http://www.ted.com/talks/stefan_sagmeister_the_power_of_time_off.html

2.3.4 Supply and Demand Could Best Match Earning Opportunities – Just Fix the Imperfections

In short:

- ***The quantization of labor into jobs is essentially quite a simple market imperfection that causes a chronic supply and demand imbalance. Although centralizing work to as few employees as possible is efficient for one company, it has negative externalities for the whole economy – also the companies themselves.***
- ***Additionally, aggregate supply (of labor and capital) currently exceeds demand because interest rates cannot turn negative enough – i.e. capital has a minimum wage.***

When one brings up any idea of increasing such a "correlation between people's willingness to spend and invest" or otherwise influencing the way work is allocated in the economy, a common reaction is something like this:

"Wouldn't that require a centrally planned system where the government or a computer program somehow dictates how much everyone gets to earn? And if we did that, why do we pay people at all – why don't we just adopt communism while we are at it?"

Actually, a centrally planned system is far from efficient at these kinds of allocations, as it cannot measure people's preferences – the relative values they attribute to goods or types of work – fairly or with any feasible accuracy.[1228] The only thing that can do this fairly is a market system of supply and demand, where individuals need to make choices and are free to do so.

Clearly, in our current system, the supply and demand of *earning opportunities* is not very well in balance and is even less so, when aggregate demand falls. Because total available earning opportunities are determined by spending and investing,[1229] the unemployment and involuntary indebtedness of some means that other people are overly eager to save money – hoard risk-free credit – that they want to save more than there are profitable real investment opportunities available.

Why would anyone hoard money without intent to spend or invest it? Different possible motives for (and other causes of) monetary saving are discussed in "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

In short, most of these issues can be countered sufficiently by making the holding of credit less profitable. The trouble is that currently we don't have the possibility of low enough real interest rates to be able to do so. And hence, we have a chronic oversupply of capital and labor – an overall desire to hoard more credit than others are willing to go into debt.[1230]

Another significant factor is that people save money – hoard credit – for their own economic security, even if they didn't consider saving profitable in terms of their "time preference" otherwise. This is because temporary unemployment involves a significant risk of long-term unemployment[1231] – and this risk increases as total demand drops. The result is a game-theoretical problem much like a Prisoner's Dilemma or a Stag Hunt[1232] (with commodity money[1233] more clearly a Prisoner's Dilemma), resulting in an inefficient outcome for almost all participants. The fundamental cause of this dilemma is the fact that it is not profitable for employers to share work. "Centralizing" work to as few employees as possible is an efficient option for any individual employer, but inefficient for the whole economy – i.e. it has negative externalities.

The zero lower bound – the minimum wage of capital – needs to be removed[1234] and people need to have the realistic alternative to work less, without a significant risk of long-term unemployment.[1235]

1228 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".
1229 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
1230 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".
1231 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".
1232 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".
1233 "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".
1234 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1235 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".

2.3.5 Structure of the Root Bug Hypothesis

In short:

- ***The Root Bug hypothesis is split into three parts, which can be researched, simulated, falsified and developed separately from each other.***
- ***The "What" part says that a sufficient correlation of earning opportunities and propensity to spend an invest – independent of total demand – can be achieved by facilitating negative interest rates and making sharing work profitable for employers with simple (dis)incentives.***
- ***The "Why" part says that achieving such a demand-independent correlation and eliminating private monopolies would solve or allow easily solving most of our economic, social and environmental challenges.***
- ***The "How" part suggests a whole new taxation model prototype – including labor and financial market policies – that could eliminate the ZLB, make sharing work profitable and mitigate possibilities of extortion with private monopoly resources and industries.***

"Believe those who are seeking the truth. Doubt those who find it." – André Gide

"For every fact there is an infinity of hypotheses." – Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance (2006)

"In so far as a scientific statement speaks about reality, it must be falsifiable; and in so far as it is not falsifiable, it does not speak about reality." – Karl Raimund Popper

"There never comes a point where a theory can be said to be true. The most that one can claim for any theory is that it has shared the successes of all its rivals and that it has passed at least one test which they have failed." – Alfred Jules Ayer, Philosophy in the Twentieth Century (1982, p. 133)

The Root Bug hypothesis is not just an inspiring story of how the world was destroyed by simple misunderstandings – it is also an actual hypothesis. And, according to Karl Popper, a hypothesis is the more valuable, the more *falsifiable* it is, i.e. the more specific and testable it is. The Root Bug hypothesis can be split into three layers that can be assessed separately.

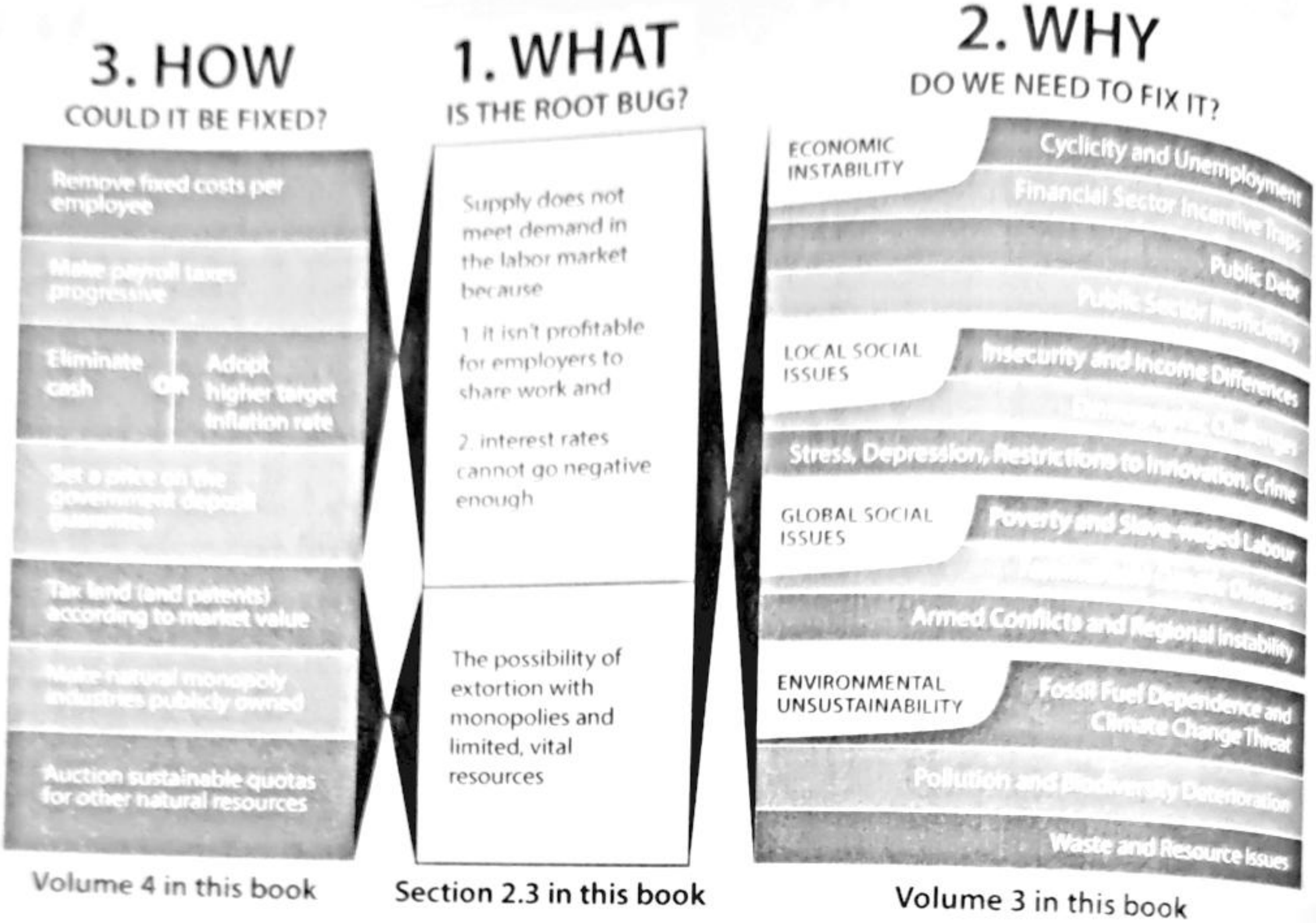
Each of these layers (or parts) can be discussed, specified, falsified and developed separately.

There's the "Why" layer, which says that most of our economic, social and environmental issues would be much easier to solve if we created a system where (1) extortion through full private ownership of monopolies was not possible and (2) earning opportunities correlate better with people's willingness to spend and invest – so that reduced total demand did not decrease this correlation significantly. The arguments are discussed in the next volume, "3 Why We Need to Fix the Root Bug".

Then there is the "What" layer, which says that such a level of correlation can be created by making it legal, socially acceptable and profitable for employers to share work among a bigger number of employees and by allowing the real interest rate to fall low enough to keep aggregate supply and demand in balance in all situations. This basic idea has been introduced in the previous chapters, starting from "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!". As for monopolies, it identifies private land ownership (ownership of location) as one of the most significant local monopolies, patents similarly as technology monopolies as well as location-dependent industries (such as basic infrastructure) and other central coordination systems (like central banks and other clearing systems) as natural monopoly industries.

And thirdly, there is the "How" layer, which is the one requiring the most innovative thinking from all of you – players in this operating system. The "How" section of this book ("4 How Could The Root Bug be Fixed")

- suggests some initial, feasible and lucrative ways for increasing choice in how much to work and mitigating risks of involuntary long-term unemployment,
- discusses how a higher, stable rate of inflation or eliminating physical cash would facilitate negative real interest rates on monetary assets and how this allows keeping aggregate supply and demand


3. HOW
COULD IT BE FIXED?
Remove fixed costs per employee
Make payroll taxes progressive
Eliminate cash
OR
Adopt higher target inflation rate
Set a price on the government deposit guarantee
Tax land (and patents) according to market value
Make natural monopoly industries publicly owned
Auction sustainable quotas for other natural resources
Volume 4 in this book
1. WHAT
IS THE ROOT BUG?
Supply does not meet demand in the labor market because
1. it isn't profitable for employers to share work and
2. interest rates cannot go negative enough
The possibility of extortion with monopolies and limited, vital resources
Section 2.3 in this book
2. WHY
DO WE NEED TO FIX IT?
ECONOMIC INSTABILITY
Cyclicity and Unemployment
Financial Sector Incentive Traps
Public Debt
Public Sector Inefficiency
LOCAL SOCIAL ISSUES
Insecurity and Income Differences
Stress, Depression, Restrictions to Innovation, Crime
GLOBAL SOCIAL ISSUES
Poverty and Slave-Forged Labour
Diseases
Armed Conflicts and Regional Instability
ENVIRONMENTAL UNSUSTAINABILITY
Fossil Fuel Dependence and Climate Change Threat
Pollution and Biodiversity Deterioration
Waste and Resource Issues
Volume 3 in this book

GRAPH 25: THE STRUCTURE OF THE ROOT BUG HYPOTHESIS.

in balance without the need for significant fiscal stimuli or other policy gimmicks, and

- investigates the potential and challenges of implementing fair and predictable land value taxation as well as ways of dealing with other monopolies.

Separating the three layers of the Hypothesis – Why, What and How – eases constructive discussion significantly. When we talk about the "Why"-arguments, we *assume* that we can achieve a sufficient rate of correlation – match of supply and demand – in the labor market. When we discuss the "What" section, we *assume* that it is *possible* (somehow) to make sharing work legal, socially acceptable and profitable and to (somehow) achieve negative real interest rates when necessary. And when we discuss the How section, we *assume* that fixing the Root Bug really is useful.

Of course, when we have established an estimate of what the effects of and requirements for fixing the Root Bug and these other subbugs would really be, we have to weigh them against each other and see whether the "investment" is worth it or not. Looking at all the unfalsified claims lying in the Why basket, it definitely looks at least worth the investigation.

In this structure of The Hypothesis, "the actual Root Bug" is the labor market failure of the mismatch between earning opportunities and individuals' willingness to spend and invest – and especially the fact that this mismatch is worsened by reduced aggregate demand, which results from the quantization of labor into jobs. However, as explained in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land", this is not the full extent of the problems in a free market or our current economic systems. It has other fundamental "bugs" as well. We could expand the What layer of the hypothesis to incorporate these imperfections and split it into the following "subbugs" – imperfections:

- **The Non-Isolable Externalities Bug:** Some things, like river water, ocean ecosystems and the global

climate are too tightly interconnected to allow preventing externality effects or charging fairly for them.[1236]

- **The Land Bug:** Land and other natural resources cannot be produced with human labor. Land (location) also has a local monopoly, making it profitable to hoard it and giving landowners a disproportionate share of any productivity increases in an economy. This is the root cause of real estate bubbles and the natural monopolies of many industries. Any land use also has significant (positive and negative) externalities on the value of land around it.[1237]

- **The Work-Piling Bug:** It is generally more profitable for an individual company to pile up work on fewer people – even against their will – than to let every capable individual participate in production according to their willingness to spend and invest. However, this is not efficient for the whole economy – it has externality costs. This is largely a "game-theoretical" problem: A fear of long-term unemployment and a lack of alternatives significantly hamper people's ability to demand higher pay for additional units of labor.[1238]

- **The Zero Lower Bound (ZLB) Bug:** In our current monetary system with physical cash and a 1-2 % inflation target (in Western countries), real interest rates cannot fall low enough to keep aggregate supply and demand in balance – i.e. to match desires to save with available profitable investment opportunities.[1239]

- **The Free Deposit Guarantee Bug:** The fact that the government guarantees bank deposits practically for free encourages excessive leverage in banking and excess liquidity in the market as well as acts as a subsidy on risk-free credit ("unemployed capital"), also maintaining higher costs of equity on its part.[1240]

- **Symptom Treatment Bugs:** This includes all unnecessary restrictions and transfer payments implemented with the excuse of treating some symptoms caused by the other imperfections and that mainly often do further harm (at least in an economy where the imperfections were fixed). These include limitations of education opportunities and other artificial access restrictions to certain labor markets; legal fixed costs per employee and labor reduction restrictions; wage regulation (e.g. minimum wages that make trading work under certain prices illegal); as well as the types of social security schemes that discourage small amounts of work.[1241]

The Work-Piling Bug and the Zero Lower Bound Bug are at the core of "the actual Root Bug" – the mismatch of supply and demand in the labor market. This labor market failure is emphasized because:

- it hasn't received much attention in mainstream economic discussion, which often doesn't seem to even consider the possibility of a human being not being the unit of labor, and

- most of the problems described in the Why section are caused by – or simple solutions to them are prevented by – this labor market mismatch as well as the resulting growth dependence[1242] and "economy war" between nations.[1243]

However, this "actual Root Bug" is hard to treat without removing many of the Symptom Treatment Bugs. Also for example removing the Zero Lower Bound Bug without assessing the Land Bug would likely result in a massive real estate bubble.[1244] When we look at the big picture, we find that many of the dilemmas involved in solving individual bugs actually solve each other. All is connected.

> "Science must begin with myths, and the criticism of myths." – Karl Raimund Popper

> "There are 2 possible outcomes: If the result confirms the hypothesis, then you've made a measurement. If the result is contrary to the hypothesis, then you've made a discovery." – Enrico Fermi

1236 See: "3.4 Environmental Sustainability".
1237 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".
1238 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".
1239 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1240 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
1241 See e.g.: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs", "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions", "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability", "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free", "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1242 See: "3.1.2 Other Scapegoats for the Mystical Growth Dependence".
1243 See: "3.3.1 Solving Poverty for Good – Ending the Economy War".
1244 See: "4.2.4.9 Real Estate Bubbles".

3 WHY WE NEED TO FIX THE ROOT BUG

In short:

- *Different political factions (and the economic schools supporting their arguments) are largely focused on debating over which symptoms caused by our buggy economic system to treat and how.*
- *Fixing the Root Bug is not a compromise balancing economic, social and environmental objectives, but would mitigate many economic and nation-level social issues, while removing the main obstacles to solving poverty and environmental challenges – our economies' growth dependence and the economy war between nations.*

"Simplicity: In a world of uncertainty, complex problems do not always require complex solutions."... "It's basically robustness. You need something that works in an uncertain future – not something that is optimal in the past." – Gerd Gigerenzer[1245]

"If you want to build a ship, don't drum up the people to gather wood, divide the work, and give orders. Instead, teach them to yearn for the vast and endless sea." – Antoine De Saint-Exupery

So, *if* it were possible to fix the Root Bug – eliminate private monopolies and get supply to actually meet demand on the labor market – why should we do it? Is it really worth it? Is it feasible (in a game theoric competitiveness and foreign policy sense) for an individual nation or economic region? And, specifically, is it in *your* interests?

The political "left", "right" and "green" factions have their special areas of interest. Of course these categories aren't very precisely and universally defined, and for example in Finland the left-right division has more to do with serving certain interest groups than with an ideological separation regarding the role of the state – or the original conservative-progressive split from the French Revolution. But in one categorization, we could simplify that the "right" wants to maximize total economic freedom and prosperity, the "left" wants avoid unfair income differences and economic insecurity and the "green" movement wants to ensure sustainability and preserve natural capital such as biodiversity. Tragically enough, no notable political faction is concerned for "developing" countries – not even the Christian democrats.

Regardless of what your "political conviction" or fundamental values may be,[1246] considering the possibilities that the Root Bug hypothesis and its solutions offer is hardly a waste of time – if nothing else, it is sure to provide inspiration for your own theories and solutions and a better understanding of the arguments with which your "opponents" (academic, political or recreational) might hit you.

According to the hypothesis, a "root-debugged economy" would be a basis for an economic system superior to any previously suggested system in terms of:

- Facilitating maximal economic growth (though not requiring any) within the limitations of individual preferences and productive capacity as well as natural resources and also maximize positive economic freedom including available entrepreneurial and professional opportunities (except the freedom to blackmail or exploit others).
- Elimination of any unfair income differences and providing sustainable economic security and other local.
- Our possibilities to solve environmental sustainability challenges.
- Allowing the elimination of poverty and thereby much of the resulting humanitarian despair on a global level.

1245 3:20->, Gigerenzer, Gerd, "What Can Economists Know? 2/5", lecture, viewed 20.8.2013, http://www.youtube.com/watch?v=DdEEwoKkfMA&nomobile=1

1246 See: "2.1 Normative Principles – What Do We Want from an Economic System?".

It would not result in as much income equality as a socialist system would, but it would almost completely obliterate *unfair* income differences[1247] and make it impossible to extort or enslave anyone. Therefore, if you are an extreme Marxist aiming at standardizing people into clones and devaluing differences in individuals' skills and preferences, you might want to keep the Root Bug just as it is – and this book will sure let you know how that can be done as well.[1248]

It would not result in as much negative economic freedom as a laissez-faire capitalist system under a "night-watchman state" or a completely stateless anarcho-capitalist ecosystem would – as it would for example reduce the possibilities of exploiting others by hoarding limited vital resources and imposing externality costs on them. However, with these limitations it would provide more positive freedom – opportunities – as well as higher productivity and innovative capacity than a completely "free market" would. If you want a survival-of-the-fittest "Darwinian" world, where the least productive percentile of human beings starve to death every year or can be exploited as slave labor – or, even "better", an expendable resource – at the will of landowners and incumbent creditors (who can determine the interest rates), then you might also want to keep the Root Bug just as it is.[1249]

Despite apparent short-term losses to some (currently privileged) interest groups, in the long run it would provide a much more worthwhile and motivating environment for everyone to operate.

Investors might be worried that they would lose out when we remove the "minimum wage of capital" – the zero lower bound of interest rates.[1250] But here, investors have to understand that, just like minimum wages are harmful to workers (collectively) because they leave some willing workers in that area unemployed and increase the others' income insecurity[1251], the "minimum wage of capital" leaves massive amounts of capital unemployed (as government-backed credit, out of productive use)[1252] and (through the ever piling amounts of debt) makes the system much more unstable, causing sudden windfall losses and gains. The *possibility* of negative interest rates – by reducing unemployment and income insecurity – is likely to increase total future consumption, providing profitable investment opportunities – especially in innovative new ventures with high returns.[1253]

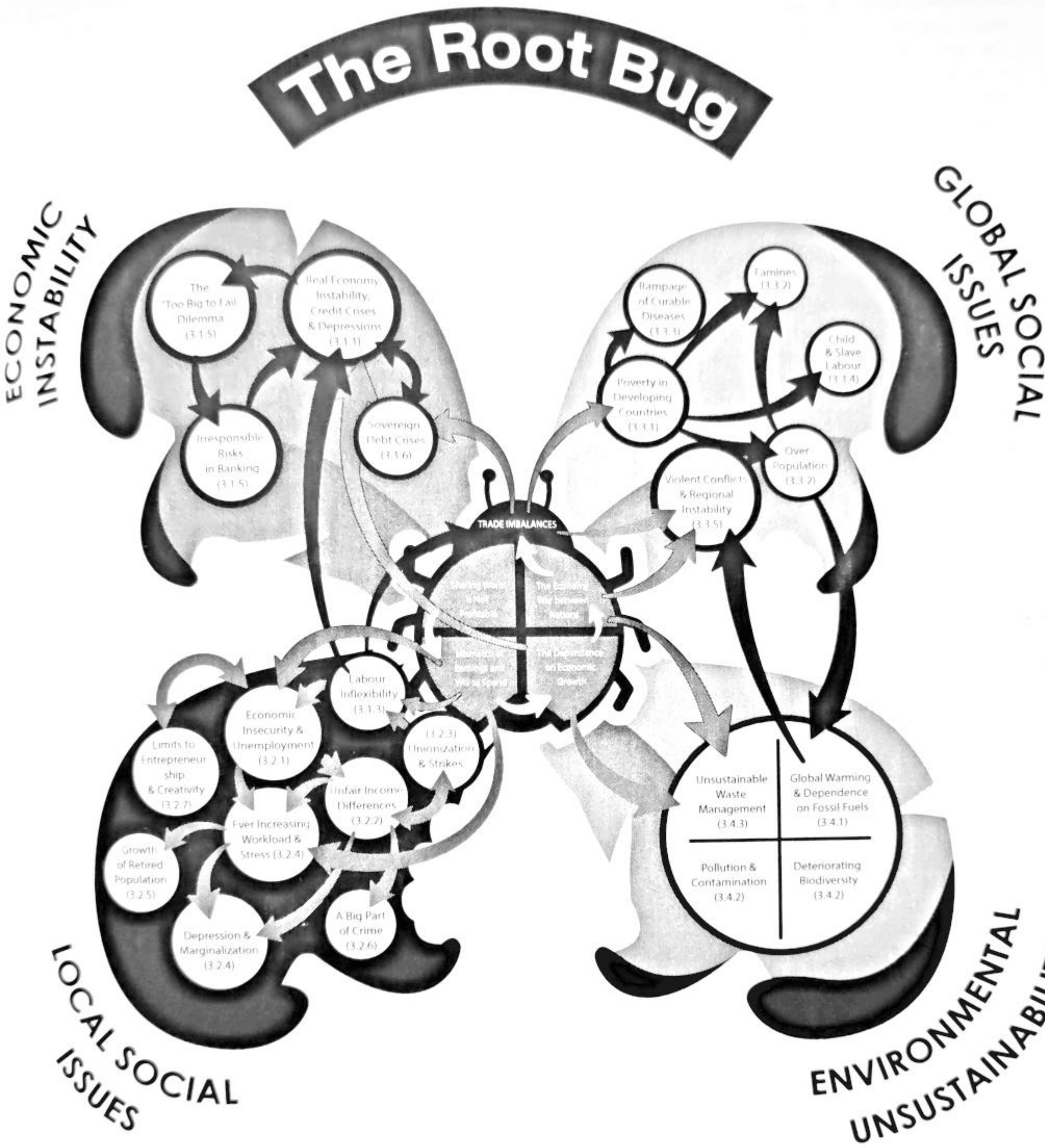
A few "losers" in a direct economic sense might include hedge funds that have specialized in speculating with economic cycles and collapses of national economies and governments, as these cyclical risks and public fiscal problems would be largely eliminated.[1254] But on the other hand, this allows them to apply their risk management know-how to actually productive investment opportunities that emerge, as the "debugged economy" better facilitates entrepreneurship.[1255]

Also, professional groups that have managed to achieve high income levels by limiting education opportunities[1256] or by leveraging the damage potential of their strike threat to bargain for wages (share of added value produced in the economy) higher than supply and demand would dictate, would lose this advantage. If you belong to some of these privileged interest groups, your change resistance is very understandable. We humans are very eager to hang on to "achieved benefits," but it is fairly likely,that even your life would be made more worthwhile and rewarding in the long run by a self-stabilizing and fair economic system that better facilitates increases in productivity and eliminating wasteful work – and gives you more alternatives, making you less dependent on the specific job to which you might have locked yourself for an illusion of security.[1257]

The solutions to many problems are much simpler and easier than one might expect – if one just asks the relevant questions. In most of our economic, social and environmental challenges, we are currently focused on the wrong questions. Each issue is discussed and explained in its own chapter in more detail, but here are some of the most crucial "question shifts" we need to make:

- **Unemployment:**[1258] Currently, we are focused on spurring demand to create more work in order to allow everyone to participate in that work. But "how to create the most work" is *not* the relevant question in terms of unemployment. The relevant question is, why does reduced demand result in a mismatch between people's earning opportunities and their willingness to spend and invest.

1247 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1248 See: "4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable".
1249 See: " 6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest".
1250 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1251 See: "2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'", 2.2.3.3 Wage Regulation by the Government – All or Nothing", and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
1252 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
1253 See: "3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity".
1254 See: "3.1.6 Sovereign Debt Crises".
1255 See: "3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity".
1256 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".
1257 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
1258 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".


The Root Bug
ECONOMIC INSTABILITY
GLOBAL SOCIAL ISSUES
The "Too Big to Fail" Dilemma (3.1.5)
Real Economy Instability, Credit Crises & Depressions (3.1.1)
Irresponsible Risks in Banking (3.1.5)
Sovereign Debt Crises (3.1.6)
Famines (3.3.2)
Rampage of Curable Diseases (3.3.3)
Child & Slave Labour (3.3.4)
Poverty in Developing Countries (3.3.1)
Over Population (3.3.2)
Violent Conflicts & Regional Instability (3.3.5)
TRADE IMBALANCES
Labour Inflexibility (3.1.3)
Economic Insecurity & Unemployment (3.2.1)
(3.2.3) Unionization & Strikes
Limits to Entrepreneurship & Creativity (3.2.7)
Unfair Income Differences (3.2.2)
Ever Increasing Workload & Stress (3.2.4)
Growth of Retired Population (3.2.5)
A Big Part of Crime (3.2.6)
Depression & Marginalization (3.2.4)
Unsustainable Waste Management (3.4.3)
Global Warming & Dependence on Fossil Fuels (3.4.1)
Pollution & Contamination (3.4.2)
Deteriorating Biodiversity (3.4.2)
LOCAL SOCIAL ISSUES
ENVIRONMENTAL UNSUSTAINABILITY

GRAPH 26: THE ROOT BUG WHY INFOGRAM: HOW THE ROOT BUG CAUSES (OR PREVENTS SOLVING) CHALLENGES IN MANY DIFFERENT AREAS.

- **Economic security:**[1259] Especially labor unions are focused on limiting companies' ability to adjust to market situations and strategy changes by restricting labor reductions. But short-term changes are not relevant in terms of economic security – long-term cumulative earning opportunities are. The relevant question is *not* how to prevent change. The relevant questions are (1) why labor is reduced as whole people and (2) why losing one's job results in such a significant risk of long-term unemployment.
- **Income differences between professions:**[1260] Currently, the political left tries to reduce income differences with higher tax progression and transfer payments. But the function of income differences between types of work is to balance the supply and demand between these types of work: Higher pay is meant to attract more employees to a sector or profession from lower-paying sectors and professions. Hence, the relevant question is, what prevents people currently in low-paying jobs from moving to labor markets with higher wages?
- **The income share of capital:** Currently, the political left is trying to raise (nominal) wages in attempts to lower profits companies are making and to impose transfer payments through e.g. higher capital income taxes. But these do not lower the *profit requirements* of investments[1261] and hence, under fair competition, they are ineffective at reducing profits made in the long run. The *profit requirements* of capital are determined by the risk-free investment option. The relevant question is, how to (1) remove the minimum wage of capital (the zero lower bound of interest rates)[1262], (2) the current direct subsidy to risk-free credit (the free deposit insurance)[1263] and (3) the possibility to reap unfair profits through monopolies.[1264]
- **Poverty:**[1265] Currently, people concerned with poverty are mainly campaigning for more foreign development aid. But foreign development aid sums (total or as percentages of GDP) are irrelevant as long as rich countries' first focus is maintaining their own current account surpluses.[1266] For developing countries to be able to get rid of their foreign debt burdens and for local capital to accumulate, the relevant question is how to get the current account balances of developing countries positive and, hence, those of developed countries negative. If we want living standards to rise in developing countries, the relevant question is how to give their citizens access to education that would increase labor productivity locally and allow them to compete over types of work with a higher market price.
- **Climate change risks:**[1267] Currently, the focus is on trying to push down annual carbon (and other greenhouse gas) emissions. However, annual carbon emissions are not relevant in terms of long-term global warming potential – long-term cumulative carbon emissions are much more so. If we want to mitigate climate change risks, we need to get fossil fuels permanently out of use as soon as possible. This could easily be done with continuously and predictably rising carbon taxes. And the most relevant question – as with any other obvious solutions to environmental challenges – is why such taxes cannot be implemented. Unsurprisingly, we run, again, into the trinity of "jobs", "growth" and "competitiveness."

1259 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
1260 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1261 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
1262 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1263 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
1264 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".
1265 See: "3.3.1 Solving Poverty for Good – Ending the Economy War".
1266 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".
1267 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

3.1 ECONOMIC STABILITY AND PROSPERITY

3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence

In short:

- *The full mechanics causing economic cyclicity are complex, but removing the insecurity-increasing effect of reduced aggregate demand by maintaining the mid-term correlation between people's earnings and their willingness to spend and invest (together with facilitating negative interest rates and preventing real estate bubbles with LVT) would be enough to break the positive feedback loop that turns minor shocks into persistent recessions and depressions.*

"After more than a quarter-century as a professional economist, I have a confession to make: There is a lot I don't know about the economy. Indeed, the area of economics where I have devoted most of my energy and attention – the ups and downs of the business cycle – is where I find myself most often confronting important questions without obvious answers..." – N. Gregory Mankiw[1268]

History has shown that a market economy tends to be unstable and prone to violent fluctuations of economic activity and employment. Economic cyclicity is practically considered a natural law in economics: A period of economic growth eventually turns into a recession or depression followed by a new period of growth.

But what is the fundamental driving force behind economic cycles? Let's look at the mechanism of a recession in more detail.

A decreased demand for labor can result for example from decreased demand for products or services – due to e.g. a supply shock that raises prices or a large structural change – or simply increased productivity that is not accompanied by an increase in consumption. The decreased demand for labor causes unemployment as a result of layoffs or reduced hiring of new employees. The resulting correlation between the decline in GPD and unemployment is referred to as Okun's law.

When unemployment starts increasing, people who still have their earning opportunities begin fearing for their income (the "Security Factor"[1269] for saving gets stronger[1270]). While those who still have income spend a smaller portion of it, those who lose their jobs don't have income (or have far less of it) and are thus unable to spend (as much as they'd like). Therefore, total demand decreases

"An economic bugbear of our times is 'unemployment.' Not only is this considered the pre-eminent problem of the 'depression' in the 'business cycle'; it is also generally considered the primary 'problem' of the 'capitalist system,' i.e., of the developed free-market economy." – Murray N. Rothbard (Rothbard 1962, p. 571)

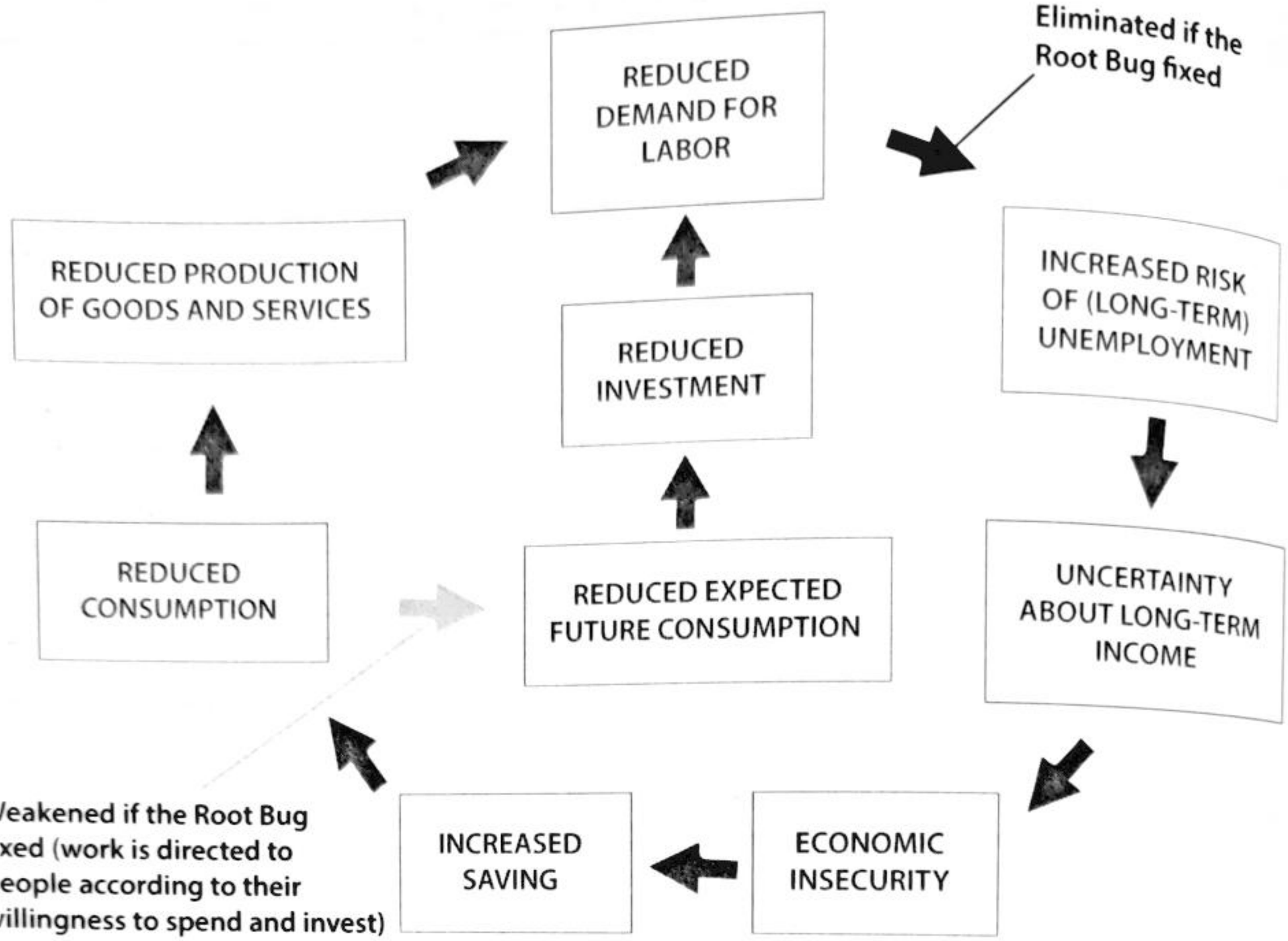
"Under existing macro-economic arrangements, growth is the only real answer to unemployment – society is hooked on growth." – Douglas Booth, Hooked on Growth: Economic Addictions and the Environment (2004, p. 153)

"Technically, employment causes growth, not the other way round, so we should focus on employment as a first-order goal rather than growth." – Karma Ura, the director of the Center for Bhutan Studies

1268 Mankiw, N. Gregory. "If You Have the Answers, Tell Me", 7th May 2011, The New York Times, column, cited 18.6.2013, http://www.nytimes.com/2011/05/08/business/economy/08view.html?_r=1&

1269 See factor A3 in: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

1270 Alternatively, in the terminology of Irving Fisher's Theory of Interest, we could say that uncertain future income makes people's "incomes' time shape" declining, which makes them prefer future "real income" (consumption) more than current "real income" (Fisher 1930, p. 31), i.e. makes their personal discount rate strongly negative.


REDUCED DEMAND FOR LABOR
Eliminated if the Root Bug fixed
REDUCED PRODUCTION OF GOODS AND SERVICES
REDUCED INVESTMENT
INCREASED RISK OF (LONG-TERM) UNEMPLOYMENT
REDUCED CONSUMPTION
REDUCED EXPECTED FUTURE CONSUMPTION
UNCERTAINTY ABOUT LONG-TERM INCOME
Weakened if the Root Bug fixed (work is directed to people according to their willingness to spend and invest)
INCREASED SAVING
ECONOMIC INSECURITY

GRAPH 27: THE SELF-REINFORCING FEEDBACK LOOP IN AN ECONOMIC DOWNTURN.

further, which causes more unemployment. This process is illustrated in Graph 27.

This effect is further magnified by the "cyclical" nature of industries producing "production goods" (as opposed to "consumption goods"[1271]). This includes the construction industry, the ship building industry and other industries producing e.g. equipment, machines and facilities for capital-intensive industries. Their revenues are dependent on the investments made by other industries. Even a slight change in expected total future consumption – e.g. an expected 2% growth in GDP dropping to 0 % – can halt a majority of new investments into new production capacity and facilities in some industries, which causes a dramatic drop in the demand for labor in production goods industries.

> "An increase in the demand for consumption goods will not merely call forth a proportional increase in the demand for goods of a higher order: the latter will also be increased by the amount needed to raise current stocks to a proportional level, and, finally, by the further amount by which the requirements for producing new means of production exceed those for keeping the existing means of production intact. (For instance, an extension of 10 percent, in one particular year, in the machinery of a factory that normally renews 10 percent of its machinery annually, causes an increase of 100 percent in the production of machinery – i.e., a given increase in the demand for consumption goods occasions a ten-fold increase in the production of production goods.)" (Hayek 1998, p. 30)

This was one factor that made Keynes skeptical about the sufficiency of interest rate adjustments to counter cyclicity

1271 "It is usual to divide economic goods into the two classes of those which satisfy human needs directly and those which only satisfy them indirectly; i.e., Consumption Goods, or goods of the first order, and Production Goods, or goods of higher orders." (Mises 1934, p. 79)

(Keynes 1936, p. 104[1272])[1273] and made him suggest fiscal stimuli (e.g. as increased public investment) to treat more significant shocks.[1274]

But the "cyclicity" of some industries – i.e. the fact that "*disproportionality* among the various productive groups" (Hayek 2008, p. 25) will inevitably emerge – is not the fundamental problem:

> "The simple fact that economic development does not go on quite uniformly, but that periods of relatively rapid change alternate with periods of relative stagnation, does not in itself constitute a problem. It is sufficiently explained by the adjustment of the economic system to irregular changes in the data [i.e. 'the external determining circumstances of the economic system, including human needs and abilities' (p. 27)] – changes whose occurrence we always have to assume and which cannot be further explained by economic science. The real problem presented to economic theory is: Why doesn't this adjustment come about smoothly and continuously, just as a new equilibrium is formed after every change in the data? Why is there this temporary possibility of developments leading away from equilibrium and finally, without any changes in data, necessitating a change in the economic trend?" (Hayek 2008, p. 25-26)

How could such cyclical chain reactions be prevented? What if we managed to remove the link between reduced total demand for labor and individuals' long-term income security?[1275] What if reduced total demand did not increase the risk of long-term unemployment and hence make anyone's long-term future income stream any more uncertain? Regardless of how-many-fold the effect of reduced expected aggregate demand on the production goods industries would be, there would be no self-reinforcing effect, as long as the correlation between people's earnings and their willingness to spend and invest didn't decrease significantly.[1276] On the contrary, as individuals' earnings decrease, monetary saving would decrease: Most economic theories agree that the (marginal) propensity to save tends to increase with the increase in income. Additionally, e.g. Milton Friedman's Permanent Income Hypothesis (PIH) presented originally in his book "Consumption Function" suggests that temporary ("transitory") drops in income (e.g. having a holiday or working shorter hours for a while) do not decrease a person's spending significantly, as long as the decrease in income is not expected to be permanent. (Meghir, 2004, p. 4)[1277]

Behavioral economics has shown that the PIH does not apply very precisely in practice. But the main deviations seem to be in the direction of *more stable* consumption: People don't change their spending behavior due to news changing permanent income expectations either as much as the hypothesis would suggest. One explanation for this is "habit formation": that the threshold to change consumption patterns that one is accustomed to is fairly high. (Holden 2012, p. 5-6) This further supports the argument that reducing income more evenly from people should decrease the total fraction of their income that people save – their collective propensity to save. "Mental accounting" can also limit the effects that income changes have on spending on services and products in different "categories".[1278] (Thaler 1985; Thaler 1999; Shefrin & Thaler 2004)

The problem in the current system is that decreased demand causes a decrease in the *correlation* between people's earning opportunities (in the mid-term) and willingness to spend and invest. Without this expected decrease in correlation (and with trust in the central bank keeping aggregate demand in balance with aggregate supply), reduced demand would not cause income insecurity.

Therefore, if labor was preferably reduced by decreasing the amount of work bought from individuals instead of firing whole employees – and if those losing their positions would be sure to be able to get back into the labor market – the self-reinforcing effect would be almost eliminated. Of course the reductions would temporarily affect some industries (e.g. production goods industries and the ones directly subject to a demand or supply shocks) more than others and reduce "the correlation" in the short run, but in the mid-term[1279] also these structural changes would be balanced more flexibly if it were profitable to share work, **as will be explained under "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".**

1272 "...since it seems likely that the fluctuations in the market estimation of the marginal efficiency of different types of capital, calculated on the principles I have described above, will be too great to be offset by any practicable changes in the rate of interest." (Keynes 1936, p.104)

1273 ...in addition to the fact that the central banks in Keynes's time were not even closely as effective in controlling inflation as they were in the 1990s and 2000s (before getting stuck at the zero lower bound, see: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash").

1274 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

1275 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1276 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest")

1277 "...individuals consume a fraction of this permanent income in each period and thus the average propensity to consume would equal the marginal propensity to consume." (Meghir 2004, p. 4)

1278 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

1279 See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant".

Still, in the above case, reduced demand can somewhat decrease "the correlation". But fortunately, we can do even better than "even" labor reduction from employees. If those, whose long run willingness to spend and invest was reduced the most, also gave up the most of their earning opportunities (work), "the correlation" in some industries could actually *increase* with reduced aggregate demand. A continuous incentive for employers to share work would allow just that, instead of forcing a perfectly even reduction in work. If work were not quantized into jobs, employees would be competing – not over who stays and who goes – but over marginal work hours (or months, or areas of responsibility or key accounts or whatever the most suitable units for work in that profession). And those most desperate for the marginal income would be ready to compromise most of their marginal salary to get the work – i.e. move the progression of taxation onto themselves.[1280] If total demand is kept in balance with supply by negative interest rates if necessary[1281], there should be little need for "forced sharing" and the progression should hardly move permanently on employees.

Also, any centrally imposed specific kinds of "work sharing schemes" (legally required parental leaves, subsidized "job sharing", the Finnish "alternation leave" system etc.[1282]) or ones that focus on case-by-case considerations do not remove this cyclical feedback mechanism, as the possibility of long-term unemployment persists. This is for example one of the biggest pitfalls of the German Kurzarbeit scheme (in addition to hampering with fair competition).[1283] The incentives need to treat all companies equally and make "dispersed" reduction of work a preferred practice to firing as well as ensure that those unemployed can bargain for at least some work regardless of total demand.

It is probably most illustrative to consider this chain reaction of cyclicity ("reduced demand causing insecurity causing reduced demand causing insecurity...") as a game-theoretical problem. It is very much like the "Prisoner's Dilemma" where two players decide, without knowledge of each other's choices, whether to cooperate – "play blue" – or defect – "play red". The best overall outcome occurs when both cooperate. However, defecting while the other cooperates gives a slightly better result for the defector but a catastrophic result for the cooperator.[1284]

In an individual choice game, defecting will give you the better result regardless of what the other player chooses, but in an "iterated Prisoner's Dilemma", where retaliation and forgiveness are possible, cooperating is much more profitable than alternating betrayal or constant mutual hostility.

The strategies dominating in the iterated game are often variations of "tit-for-tat": paying the opponent back with his own medicine. And this is also what causes unwanted depressions in the "Consumer's Dilemma": As your risk of getting fired by no means correlates with your spending and any of the millions of other players could start saving at any point, saving becomes the almost compulsory option – especially as living standards rise and thereby the marginal utility of additional spending declines. And when you are saving due to such fears of a possible economic decline, you are also likely to keep your savings as cash or liquid deposits, instead of putting them into something productive and risk-bearing (to maintain all possible option value).

> "'Devil catch the hindmost' is the motto of our so-called civilized society to-day." ... "[W]e learn early to grasp from others that we may not want ourselves. The fear of poverty makes us admire great wealth ; and so habits of greed are formed, and we behold the pitiable spectacle of men who have already more than they can by any possibility use, toiling, striving, grasping to add to their store up to the very verge of the grave..." ... "But the mad struggle would cease when the fear of poverty had vanished." (George 1883, p. 103)
>
> "There are, in general, eight main motives or objects of a subjective character which lead individuals to refrain from spending out of their incomes:
>
> (i) To build up a reserve against unforeseen contingencies;" ...
>
> (v) To enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action;" ...
>
> (viii) To satisfy pure miserliness, i.e. unreasonable but insistent inhibitions against acts of expenditure as such." (Keynes 1936, p. s. 73-74)

But if we removed the fear of complete unemployment – especially long-term unemployment – from the equation by making it always profitable to share whatever work

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1280 See: "4.1.2.4 Continuously Progressive Payroll Taxes" and "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".

1281 See: "4.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1282 See: "4.1.1.1 Forms of Employment Flexibility".

1283 See: "Sidenote Box 4111A: The German 'Kurzarbeit' Scheme – Closer, but No Cigar".

1284 If a recession does not result in a deflationary chain reaction (e.g. due to fiscal stimuli and wage regulations), defecting (saving) might not be more profitable than mutual cooperation (no one saving excessively). This makes the "Consumer's Dilemma" more a "coordination game" a.k.a "trust dilemma" a.k.a. "Stag Hunt", than a Prisoner's Dilemma. Under commodity money (e.g. a gold standard) with no regulation, a deflationary recession results in a massive wealth transfer from debtors to creditors, making the Prisoner's Dilemma comparison justified (see: "2.2.2.1 A Single Precious-Metal Standard").

was available, both the added value of saving and the risks of spending and borrowing would be decreased significantly. This can be achieved already by reducing work more evenly. However, the better the expected correlation between earning opportunities and people's spending and investing, the lower the cost of not saving for personal security while others save.[1285]

In the extreme case where the correlation between work and spending was perfect so that the ones attempting to save for security reasons would have their work cut by that amount, spending and investing would always be the preferred option – as long as people see any added value in new products and services or find profitable-looking investment opportunities.

This extreme case of instantly adjusting perfect correlation is of course not possible, firstly, because people's earning opportunities are finally limited by their productivity and mobility: A person only willing to do or capable of doing popular types of work that are in low demand would not be able to earn enough to achieve the lush living standard she might yearn, even if she worked 100-hour workweeks. Secondly, it wouldn't allow any chronological flexibility, which was the whole point of the system allowing us to save and borrow as money – others' credit.[1286] In reality, people's career opportunities and work gigs do not occur at the same time with their big investments – like buying a house. And that's why we have to allow saving and taking on debt.

To avoid cyclical chain reactions, it is enough to ensure that no one has the risk of losing one's income completely in the long run due to reduced total demand. To maximize possibilities for desired growth, the most relevant question is how to maximize the correlation between income opportunities and propensity to spend within the time span of around one to five years[1287] – and how to maximize social mobility and structural flexibility for individuals. Ensuring that structural imbalances balance themselves as efficiently as possible and without the need for involuntary unemployment in-between will further reduce income insecurity, as will be explained in "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

"Stable" does not mean "static" – quite the contrary. There will always be demand and supply shocks as well as dramatic structural changes: People's preferences will change, technologies will evolve, new resources will be found, and natural disasters and political disruptions will occur. Even with the Root Bug fixed, these will of course cause changes in purchasing power and total demand – especially for production goods – but they need not cause self-reinforcing chain reactions that prevent wanted economic growth and cause involuntary long-term unemployment.

Ironically, getting rid of the *dependence* on economic growth provides the maximal potential for economic growth – if more specialization and trade really is what people want. This might sound paradoxical in the currently dominant public discourse,[1288] but essentially there should be nothing surprising about this: Being desperate for something usually does not increase one's chances of getting it – e.g. improve one's position in a negotiation table – or the quality of the achieved outcome. Do you expect alcoholics to have the best parties? Myths regarding the "inherent" growth dependence of capitalism are discussed in the next chapter, "3.1.2 Other Scapegoats for the Mystical Growth Dependence".

If reduced total demand did not result in a significant supply-and-demand mismatch in the labor market on the individual level, there would be nothing limiting economic growth except people's preferences. If we didn't have growth, it would just mean that people preferred the additional free time, doing things themselves or doing things for each other for free.

1285 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free", and "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

1286 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

1287 See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant". The upper-limit comes from the notion that being unemployed continuously for over a year is likely to be very damaging to one's professional credibility in the labor market, where technologies and practices change constantly. Of course, this "negative learning curve" can be diminished by e.g. studying and voluntary work during the unemployment.

1288 See: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

> "Modern bourgeois society, with its relations of production, of exchange and of property, a society that has conjured up such gigantic means of production and of exchange, is like the sorcerer who is no longer able to control the powers of the nether world whom he has called up by his spells." ... "It is enough to mention the commercial crises that by their periodical return put the existence of the entire bourgeois society on its trial, each time more threateningly. In these crises, a great part not only of the existing products, but also of the previously created productive forces, are periodically destroyed."
> – Karl Marx and Friedrich Engels, Communist Manifesto, (1848, p. 8-9)

> "Another reason for the 'German Wunder' is that German establishments obviously do not practice labor market flexibility by numbers, but by hours." ... "In the economic crisis, work sharing can be an important macro-economic stabilizer. Beneath the positive psychological effect for the individual of not being unemployed, it has as well an important impact on public sentiment and the perception of the level of unemployment. Consequently, the immediate benefits in terms of supporting domestic demand could be stronger than the same expenditure on unemployment benefits. Even with the same disposable income, a worker who is on a work sharing scheme rather than in unemployment could have a higher propensity to consume. This could help to explain why private consumption has held up remarkably well [in Germany] during the crisis." (Crimmann et al, 2010, p. 6 & 7)

Sidenote Box 311A: Other Theories of Cyclicity: 'Debt Deflation', ABCT and Real Estate Pull

The above explanation of the self-reinforcing cyclical mechanism is not far from the process in Irving Fisher's "debt deflation" theory.

> "Assuming, accordingly, that, at some point of time, a state of over-indebtedness exists, this will tend to lead to liquidation, through the alarm either of debtors or creditors or both. Then we may deduce the following chain of consequences in nine links: (1) Debt liquidation leads to distress selling and to (2) Contraction of deposit currency, as bank loans are paid off, and to a slowing down of velocity of circulation. This contraction of deposits and of their velocity, precipitated by distress selling, causes (3) A fall in the level of prices, in other words, a swelling of the dollar. Assuming, as above stated, that this fall of prices is not interfered with by reflation or otherwise, there must be (4) A still greater fall in the net worths of business, precipitating bankruptcies and (5) A like fall in profits, which in a "capitalistic," that is, a private-profit society, leads the concerns which are running at a loss to make (6) A reduction in output, in trade and in employment of labor. These losses, bankruptcies, and unemployment, lead to (7) Pessimism and loss of confidence, which in turn lead to (8) Hoarding and slowing down still more the velocity of circulation. The above eight changes cause (9) Complicated disturbances in the rates of interest, in particular, a fall in the nominal, or money, rates and a rise in the real, or commodity, rates of interest." (Fisher 1933, p. 341-342)

However, a state of "over-indebtedness" would not result in a panic if no one had the fear of losing her earning opportunities completely – the threat of (long-term) unemployment were removed. If over-

Continued on page 271 ▶

indebtedness results in some kind of alarm, which reduces borrowing and causes existing debts to be paid off (e.g. through liquidation of collateral), lowered interest rates (to negative if needed) can ensure that the remaining credit "circulates faster" (people hold smaller buffers of savings by spending or investing earlier) to offset the change.[1289] Simultaneously the lowered rates relieve the biggest pressures to liquidate debts immediately, facilitating more "peaceful" deleveraging.

The debt deflation model – even within its name – strongly assumes the Quantity Theory of Money: that a decrease in the *amount* of debt and credit would be what caused prices and wages to drop in the Great Depression and in recessions in general. Rather, I argue that the deflation cycle is the result of aggregate supply exceeding aggregate demand, which could happen just as well without any debts being paid off.[1290]

Austrian Business Cycle Theory (ABCT), initially presented by Ludwig von Mises and further developed by Friedrich Hayek, (2008) takes this focus on the quantity of debts even further. As "artificially low interest rates"[1291] sustained by the central bank and the possibility of banks to "expand credit"[1292] allow granting more and cheaper loans than a fixed money supply would permit, this is thought to mislead entrepreneurs to make "malinvestments" – investments in "disproportionate" quantities of goods of different "order" (forming different parts of the supply chain). This eventually results in massive overcapacity in early stage (i.e. "higher-order") production goods, which leads to losses. A major difference to the "debt deflation" theory is that the ABCT focuses on blaming the bust on the preceding "boom" and its "too low" interest rates.[1293]

> "Among the phenomena that are fundamentally independent of changes in the value of money, we must include, first of all, the effects of a rate of interest lowered by monetary influences, which must necessarily lead to the excessive production of capital goods." (Hayek 2008, p. 67)

> "Middle-stage productive activities are starved for resources which are allocated to early-stage activities, providing additional demand for investment goods and late-stage activities attempting to satisfy increased demand for consumption goods. The atrophy of the middle stage creates a bottleneck which prevents entrepreneurial production plans from being carried out." (Mulligan 2006, p. 74)

(Marxists, surprisingly similarly, also see the crises of capitalism to be the result of an expansion of this "fictitious capital".[1294])

Hayek believes that interest rates coordinate which industries invest at what times and that the natural limitedness of the money supply should prevent overinvestment. However, from an industrial management point of view, this does not make much sense. Individual companies make investments (into e.g. product development and new production capacity) according to their estimations of future demand for their goods

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1289 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
1290 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
1291 See: "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations".
1292 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".
1293 "The Austrian School blames the expansionary policy of the 1920s for the onset of depression, and the reliance on government and central bank policy activism for transforming what would have been a brief recession into a decade-long ordeal." (Mulligan 2006, p. 76)
"This view contrasts markedly with Friedman and Schwartz's (1963) conclusion that the secondary contraction was caused by the Federal Reserve System's failure to provide enough liquidity." (Mulligan 2006, p. 75)
1294 "The ability of the bank to make unsecured loans is dependent on "confidence", and at times of expansion and boom, the mass of fictitious capital grows rapidly. Then, when the period of contraction arrives, and the workers can no longer feed the voracious appetites of all these capitals, the bank finds itself under pressure and calls in its loans, defaults occur, bankruptcies, closures, share prices fall, and things fall back to reality – fictitious value is wiped out.
In times of recession, even good, useful commodities cannot be sold because money and credit has become scarce, and the commodities prove to be valueless."
– "Fictitious Capital", Marxists.com, Encyclopedia of Marxism, http://www.marxists.org/glossary/terms/f/i.htm

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▶

and services. The availability of affordable credit alone (or the lower return on monetary savings)[1295] is no reason to make an investment. Even if the profit requirements of capital were to drop negative,[1296] investments still need to *generate revenue* to be profitable, which requires there to be expected demand for the products or services the investment is meant to help to produce. And the limitedness of the money supply is not a very good predictor of future demand.

Using the market interest rate as a substitute for market demand estimates is about as valid a method as predicting the future by reading tea leaves or fish guts. If I were the chairman of the board of a company listening to the CEO present his strategy and his main argument for the suggested investment plan was that "the interest rate suggests now is the time for our industry to invest", I'd fire his incompetent a**e immediately – and then I'd fire myself for recruiting such an incompetent CEO.

Also, a bank would be foolish to grant credit for investments if it did not see very strong grounds for the demand for such an investment or at least that the assets invested in (and others pledged as collateral) would have notable liquidation value (and if it didn't expect a government bailout[1297]). If low rates misled some (incompetent) investors and managers, causing "irrational exuberance" and overoptimistic *equity* investment and overproduction, the resulting losses on equity would not cause any economic chain reactions or uncertainty for other participants in the economy.[1298]

The assumption in ABCT is that lower interest rates induce more investment into early-stage production (e.g. mining and refining).

> *"In response to lower interest rates, firms shift productive activity into predominantly long-term projects with lower expected returns." (Mulligan 2006, p. 71)*

It is true that lower interest rates can increase investments into more capital intensive[1299] technologies (ones that are expected to generate revenue much later in the future),[1300] but nothing says that "higher-order" industries would necessarily be the most capital intensive ones or the ones generating the lowest returns. The returns that each industry makes can fluctuate wildly as well – especially in e.g. agricultural products, energy and metals where the short-term price elasticity of both supply and demand is low.

And if companies knew about the "monetary disturbances" caused by the central bank, why wouldn't they take these disturbances into account and correct for them in their investment calculations? Hayek simply seems to assume that the interest rates and price mechanisms in a commodity money system – if left uninterfered – always nudge the market in the equilibrative direction[1301] – and therefore any external disturbance[1302] must, "logically", be the cause of any harmful economic fluctuations.[1303] Also other Austrian economists have criticized this logic:

1295 Lower rates can, of course, make some investments profitable that wouldn't be so with higher rates: With lower discount rates cash flows further off in the future have significant present value. But if there is no expected demand, the investment is purely a loss. See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "4.2.3.5 More Long-Term-Oriented Investment and Company Management".

1296 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1297 "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".

1298 "Thus over-investment and over-speculation are often important; but they would have far less serious results were they not conducted with borrowed money." (Fisher 1933, p. 341)

1299 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production."

1300 See: "4.2.3.5 More Long-Term-Oriented Investment and Company Management".

1301 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

1302 For the discussion on whether conventional monetary policy really is an "interference", see: "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations".

1303 "The point of real interest [note: Hayek seems to mean 'the point of curiousity', not 'the purpose of the real interest rate'] to trade cycle theory is the existence of certain deviations in individual price relations occurring because changes in the volume of money appear at certain individual points; deviations, that is, away from the position that is necessary to maintain the whole system in equilibrium. Every disturbance of the equilibrium of prices leads necessarily to shifts in the structure of production, which must therefore be regarded as consequences of monetary change, never as additional separate assumptions." ... "The special advantages of the monetary approach consist precisely in the fact that, by starting from a monetary disturbance, we are able to explain deductively all the different peculiarities observed in the course

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> "[T]he present Austrian solution is defective because it relies on a fallacious analysis of error." ... "According to the consequentialist approach, error is impossible and equilibrium must prevail if conditions do not change any more. Error can only occur if conditions change. However, the crucial problem is that obviously not all change necessarily leads to error. For example, the fact that, for the payment of wages, one needs more cash at the beginning of a month does not surprise the businessman." ... "[I]f error was the necessary consequence of some preceding event then we would have to deny the notion of choice altogether." ... "Mises neither explains why inflation always leads to error nor why the market participants cannot anticipate its effects. He therefore fails to prove that inflation implies error." (Hülsmann 1998, p. 2-4 & 6, italics in original)

(Unfortunately, Hülsmann then goes on to present an even worse alternative: a deontological theory that essentially says: "the state involved = certain failure of everything". (Hülsmann 1998, p. 11-17))

Hayek also has a curious assumption that new money can be "injected" into certain parts of the economy to raise prices in that specific sector or product class[1304] – a mental image that e.g. Positive Money activists seem to have adopted.[1305] Although there could be some logic in this view in the case of quantitative easing[1306] (large-scale central bank purchases of financial assets), the Austrian perception of the functioning of the whole financial system and the mechanics of monetary policy is in any case utterly incompatible with today's electronic banking: Hayek assumes that banks "lend on" their reserves[1307] and that central bank monetary policy is about increasing the money supply.[1308]

Additionally, the ABCT thinks that there can be both less saving and more investing at the same time, which is impossible in a closed economy,[1309] regardless of what kind of money is used (of course the country can become indebted overseas if the production goods are imported[1310]). The theory is that:

> "...during a period of policy-induced credit expansion, the injection of additional money drives a wedge between saving and investment. There is paradoxically both more investment and less saving, because with the lower interest rate, consumers save less and consume more." (Mulligan 2006, p. 72)

Fiscal stimulus (the public sector taking on debt) can allow the private sector to *save more* monetarily (i.e. in excess of available investment opportunities[1311]), but no domestic credit expansion allows investing more while saving less. There would simply be a massive labor deficit causing rapidly accelerating inflation.[1312]

Many Austrian economists insist – like neoclassical models – that unemployment is the result of too high wages (Rothbard 1962, p. 583-585).[1313] This might apply for structural unemployment (assuming no mobility restrictions), but in terms of the total demand for labor this makes little sense. Companies are not entities

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of the trade cycle, and so to protect ourselves against objections such as were raised in an earlier chapter against non-monetary theories." (Hayek 2008, p. 64-65 & 68)

"In the Austrian view, the business cycle cannot be caused by changes in interest rates resulting from changes in actors' time preferences, but only through policy-induced credit or monetary expansion." ... "ABC theory is founded on the concept of a sustainable, market-determined interest rate, and predicts negative consequences when that equilibrium is persistently disturbed." (Mulligan 2006, p. 72 & 91)

1304 "The nature of the changes in the composition of the existing stock of goods, which are effected through such monetary changes, depends of course on the point at which the money is injected into the economic system." (Hayek, 2008, p. 64)

1305 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

1306 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply"

1307 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".

1308 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

1309 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

1310 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

1311 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

1312 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1313 See: "2.2.2.1 A Single Precious-Metal-Standardized Currency".

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with some kind of *intrinsic* utility and demand curve for labor. They are competing organizational forms[1314] that only buy as much labor as is needed to produce the products and services that they can sell profitably (and to make the investments that are deemed profitable with current expectations of future sales). So, for lower wages to increase the total demand for labor, lowered nominal product prices would need to lead to increased consumption by consumers. And this is where the mechanism works quite the opposite way: If there is unemployment which is expected to lower prices and wages, this deflation expectation implies higher real interest rates,[1315] which further encourages saving, i.e. encourages supplying more labor and buying less labor from others through products and services.[1316] Therefore "Keynesian" or "cyclical" unemployment rather means too high interest rates – cost of being in debt and return for holding credit – than a too high overall wage level. Hayek's theory (like many monetarist and New Keynesian theories) carries some serious baggage of the Quantity Theory,[1317] [1318] which lets him assume that the long run circulation velocity of money[1319] is relatively stable and that hence the interest rate mechanism will work to balance supply and demand.

Other explanations for "boom and bust" cycles include the bubbling nature of real estate. (Harrison 2005) And no doubt, skyrocketing real estate prices accompanied by reckless mortgage lending was a major *trigger* for the most recent big economic crash in 2008. The monopoly nature of land makes real estate a very speculative and volatile market, and the cure for this – land value taxation – has been known for centuries.[1320] However, a collapse in real estate prices alone would not cause recessionary chain reactions in the real economy (production, consumption and investment) if people had no fear of losing their earning opportunities completely[1321] – and especially if people weren't encouraged to take low-deposit mortgages for homeownership (as symptom treatment to the inequalities caused by "land").[1322]

1314 See: "1.1.9 Companies as Competing Organizational Forms".
1315 E.g. an expected 5 % monthly drop in prices alone implies an 80 % annual real interest rate. ($1.05^{12} = 1.796$).
1316 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives" and "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1317 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
1318 "There is no doubt that the emphasis placed on this phenomenon marks the most important advance made by monetary science beyond the elementary truths of the quantity theory. Monetary theory no longer rests content with determining the final reaction of a given monetary cause on the purchasing power of money, but attempts instead to trace the successive alterations in particular prices, which eventually bring about a change in the whole price system." (Hayek 2008, p. 65)
1319 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".
1320 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding" and "4.2.4.9 Real Estate Bubbles".
1321 See: "3.1.4 Private Credit Crises, Mass Defaults and Overleverage" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
1322 See: "4.3.1.6 Case: Helsinki Metropolitan Region" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

3.1.2 Other Scapegoats for the Mystical Growth Dependence

In short:

- ***Our current credit money system as well as companies' requirement to pursue growth and profits are often blamed for our economic system's growth dependence. But this is barking up the wrong tree. The quantization of labor into jobs resulting in a chronic labor market supply and demand mismatch and in our "job creation paradigm" as well as the zero lower bound of interest rates (the "minimum wage of capital"), are the decisive causes for the growth dependence.***

"What you give up will be given to you." – Tommy Hellsten (2008)

"Our enormously productive economy ... demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction, our ego satisfaction, in consumption ... We need things consumed, burned up, worn out, replaced, and discarded at an ever increasing rate." – Victor Lebow, The Real Meaning of Consumer Demand (1955)

"It is almost as if the American founding fathers had declared that our inalienable rights were Life, Liberty and the pursuit of Economic Growth." – Nic Marks, The Happiness Manifesto (2011)

"The path on which the majority of the world population has found itself is the path of economic growth. More exactly, the path on which GDP growth is a non-negotiable target of economic and social policy." ... "Yet, increasing stability receives much less attention in economics and politics than staying on or getting back to the upward spiral. This path, however, has become life threatening." – Miklós Antal[1323]

"We're hung up talking about economic growth, but because [politicians] know that we need more than this – this one lever doesn't really capture everything we care about – they're increasingly trying to qualify what they're calling for with extra terms. So, for example Merkel who's called for 'sustainable growth', David Cameron for 'balanced growth', Barack Obama for 'long-term lasting growth'. Barrosa wants the EU to have 'smart, sustainable, inclusive and resilient growth'. And all these terms – I mean, sometimes I feel like I'm walking into a New York deli bar." ... "[I]t's clear that we want something more than growth." – Kate Raworth[1324]

The need for constant, ever-lasting growth is something that is often seen as an inherent part of a market economy and capitalism. The following quotes are typical:

"Growth is embedded in capitalism's DNA. Supporting capitalism and rejecting growth is a contradictory and untenable position." – Frank Rotering

"Economic growth is the essence of capitalism." – Serge Latouche:

"Capitalism is a growth machine." – Walden Bello[1325]

"There is very good reason to believe that, in a generation or so, capitalism itself will no longer exist – most obviously, as ecologists keep reminding us, because it's impossible to maintain an engine of perpetual growth forever on a finite planet." – David Graeber

Hopefully we've so far managed to provide a credible counterargument into these claims.[1326] If it were profitable for employers to share work – so that constantly utilizing

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1323 0:50-> & 4:07->, Antal, Miklós, 2014, "Plan B – is there an alternative to economic growth?" TEDx Talk, TEDx Danubia, viewed 27.6.2014, https://www.youtube.com/watch?v=J9_Xc9wxByM

1324 2:03->, Raworth, Kate, "Doughnut Economics: Creating a safe and just space for humanity", viewed 18.6.2013, http://www.youtube.com/watch?v=CqIL-cM8gb4#

1325 Frank Rotering, 2009, "A Critique of Ecological Economics - Part 2", YouTube video, viewed 28.2.2013, http://www.youtube.com/watch?v=X-9godsILHDw

1326 See: "3.1.2 Other Scapegoats for the Mystical Growth Dependence",

full production capacity was not necessary to avoid unemployment – and if negative real interest rates were possible so as to prevent excessive hoarding up credit – others' debt – in an economic decline, there really would be nothing making growth dependence the "essence" or even a feature capitalism. Here we've discussed some common scapegoats for the "inherent" growth dependence of capitalism.

3.1.2.1 The Perpetual Debt Hoax, a.k.a. The Fallacy of Unpayable Interest

In short:

- *Charging interest on debt does not make it impossible to pay debts back, nor demand a constant increase in the money supply – as long as creditors spend or invest their credit. The effect is the same as charging for any service.*
- *The "fallacy of unpayable interest" is grounded on the misleading conceptual metaphor of money as a "thing" or substance and debt as "borrowed money".*

> "In the reign of Edward VI, religious zeal prohibited all interest. This prohibition, however, like all others of the same kind, is said to have produced no effect, and probably rather increased than diminished the evil of usury." – Adam Smith, The Wealth of Nations (1776, p. 78)

> "A lie can get halfway around the world before the truth can even get its boots on." – Mark Twain

A fascinatingly large number of critics insist that charging interest on debts creates "perpetual debt" – debt that can never be paid off because the money to pay it off "does not exist" – and hence either constant growth or inflation (again assuming the Quantity Theory[1327]) is built into the system. Most notoriously this includes the Zeitgeist Movement[1328] and "Money as Debt" films by Paul Grignon[1329], which have a spurred a number of initiatives.[1330] [1331] The perpetual debt argument has even found its way into the political programs of left-wing political factions and parties.[1332] But also on the very "opposite ends" of the political spectrum, conservatives[1333] and libertarian gold standard advocates have jumped onto this hoax train[1334] – possibly as another opportunity to demonize the fiat money system and thereby support their own financial agendas (as e.g. large-scale precious metals investors). This is not surprising, considering how the "ancestors" and idols of both of these – Marxists and Austrian economists – were firm devotees of the "commodity money religion".[1335]

This logic is even adopted officially by ecological economics[1336]:

> "Interest-bearing loans require that more be paid back than was initially borrowed, however, demanding a constant increase in the money supply. The net result of simultaneous processes of money creation and destruction determines the net growth of the money supply." (Daly & Farley 2010, p. 293)

As explained in "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", the "perpetual debt" argument is not valid. Banks also don't only "create money" when they grant

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1327 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1328 17:20->, The Zeitgeist Movement, "Zeitgeist Addendum", "documentary", TZM Official Channel, viewed 10.3.2013, http://www.youtube.com/watch?v=EewGMBOB4Cg

1329 24:24->, Grignon, Paul, 2011, "Money as Debt", viewed 10.3.2013, http://www.youtube.com/watch?v=e6LWqgohO4E

1330 "Social Credit", Bleeding in Debt, cited 18.1.2014, http://www.bleedingindebt.com/

1331 3:03->, "Sacred Economics with Charles Eisenstein – A Short Film", Fierce Love Films, viewed 1.3.2014, http://www.youtube.com/watch?v=EEZkQv25uEs

1332 E.g. in the political program of the Finnish Left Youth (Vasemmistonuoret): "Limiting economic growth is not possible in the current debt-based economic system." ... "All money is created as debt, but because of interest there is always more debt than there is money. The only way to manage the repayment of debts with interest is creating even more debt money. This, however, requires economic growth, so that more debt can be taken." ... "The private banking sector has turned the medium of exchange into debt forcing the society to constantly borrow and invest into growth."
– "Poliittinen ohjelma – Raha ja velka [Political Program – 1.1 Money and Debt]", Vasemmistonuoret, cited 19.1.2014, http://www.vasemmistonuoret.fi/?/asiakirjat/poliittinen_ohjelma/

1333 Similar lines of thinking are also present in the U.S. Republican Party:
"Our debt-based economic system with its exponential growth of debt due to compounded interest consigns us to massive unemployment, threats to the social safety net, a deteriorated intrastructure, a psychology of poverty amids plenty, austerity."
– 0:11->, Kucinich, Dennis, 2013, "Congress Must Regain Power to Coin Money Interest Free", cited 14.5.2014, https://www.youtube.com/watch?v=kfww4M8sOyw

1334 29:28->, Maloney, Mike, 2011, "Debt Collapse", film, Silver & Gold, viewed 10.3.2013, http://www.youtube.com/watch?v=tj2s6vzErqY (e.g. 31:55: "This system requires that we go deeper into debt every month than we were the previous month. We have to always borrow more currency into existence than we are extinguishing every single month or the whole thing starts to collapse.")

1335 See: "1.2.1 Money Facilitates Trade through Liquidity and Broad Acceptability".

1336 See: "2.2.4 Ecological Economics – Putting Economics into the Eco-Box".

new "loans",[1337] but also when they make almost any payments (salary, interest, dividends etc.). As long as the creditors spend their credit, including the profits made by interest, all debts can be paid back. But if any income is not spent or invested back into the economy, this makes it impossible to pay that part of the debt back. All debt is *to* someone else, a creditor. And all credit – including the bit we call money – is someone else's debt. Even though banks don't create new money to match debts to them when they charge interest, they "create" new money when they pay e.g. wages and dividends.

Theoretically, we could have a non-growth-dependent economic system without negative interest rates – if we could ensure that people remain "lazy" and "impatient" (maintain a positive time preference[1338]) enough so that positive interest rates are constantly needed (even without any new real investment opportunities) to prevent them from spending excessively on credit.

The bigger challenge is that when combining an uncertain economic environment, reduced willingness to spend and a work ethic causing people to "first work then play",[1339] holding on to savings in the form of credit becomes too profitable, compared to investing in real assets directly or through company equity. This is why we need the possibility of negative real interest rates when, even at zero interest, there are more people willing to hold credit than there are people willing to be in debt. And the critics of the capitalist system do not of course even consider such a possibility – as don't many advocates of it, baggaged by the heritage of outdated models.[1340] This has a lot to do with the misleading conceptual metaphor in our languages of money being a "thing" or some kind of "substance", which reinforces the dominant "commodity money religion".[1341]

3.1.2.2 'Companies Have to Grow or Die'

<u>In short:</u>

- ***Unlike the conventional wisdom seems to say, a company's objective is not always to grow. Especially in declining markets, maintaining profitability is often a much higher priority and can be pursued e.g. by specializing in a niche or focusing on mitigating costs.***
- ***Even if most companies did aim at growth, this still would not mean that the economy or even individual industries would have to keep on growing. Such a conclusion is a fallacy of composition. In a healthy market, companies are also meant to go bankrupt – and other, growing ones capture their market share.***

Another proposed explanation for growth dependence is that companies strive constantly for growth and that they need to grow if they wish to survive. Richard Smith – an advocate of "eco-socialist economic democracy" (Smith R 2010, p. 38) – is one to use this argument:

> "[T]he idea of a steady-state capitalism is based on untenable assumptions, starting with the assumption that growth is optional rather than built into capitalism." (Smith R 2010, p. 1)

He lists the following "rules and principles of reproduction" shaping capitalism:

1. Producers are dependent upon the market
2. Competition is the motor of economic development
3. "Grow or die" is a law of survival in the marketplace.

> "In short, I maintain that the growth imperative is virtually a law of nature built-into in any conceivable capitalism. Corporations have no choice but to seek to grow. It is not 'subjective.' It is not just an 'obsession' or a 'spell.' And it cannot be exorcised." (Smith R 2010, p. 31-32)

These arguments are quite easy to refute. The dependence of individual producers on the market and the existence of competition don't provide much intuitive logic for deducing growth dependence, so we'll focus on the "grow or die" argument (which also deals a lot with competitive pressures).

Firstly, even if companies need to grow, nothing says that this requires the whole economy to grow. Such a conclusion would be a kind of *fallacy of composition*: inferring that something is true of the whole from the fact that it is true of some part of the whole. As explained under "1.1.9 Companies as Competing Organizational Forms", companies are meant to go out of business as well, and as old ones disappear from the market, new ones have

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1337 See: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".
1338 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
1339 See: "4.1.6.2 Making Sharing Work Socially Acceptable" and this book's sister, "The Guilt Economy".
1340 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".
1341 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

the opportunity to establish themselves and grow. Also, industries have their life cycles as well, and individual industries can grow even if the whole economy does not. Drawing the conclusion that the whole economy must grow from the presumption that "companies must grow or die" is like drawing the conclusion that the amount of hair on your head has to increase all the time because every hair grows – forgetting that they can fall off or be cut, too – or that the total amount of biomatter on earth has to grow because every individual life form seeks to grow and reproduce – forgetting that individual animals and plants die and decay as well. Is nature inherently unsustainable as every part of it seeks for growth on a finite planet?

Secondly, what is it that makes it necessary for (many) companies to grow or die? The biggest reason for this is that the industry is growing and therefore a company not growing is practically falling behind in competition, which usually predicts demise. When industries are not growing, a company can maintain its market share and competitive advantage without increasing revenues. Usually, even maintaining one's market share requires *striving* for new customers, as some of the old ones are lost to competitors. It's a "Red Queen's Race".

Industries tend to follow fairly arch-shaped life cycles and therefore a declining industry (in a generally growing economy) is often a dying industry. And any company operating in such an industry is therefore going to die unless it manages to reinvent itself by moving into another industry, reinventing the industry or creating a new one. However, if the economy as a whole is steadily declining, the decline of an industry does not necessarily imply that it is about to die altogether just yet.

Additionally, one reason non-growing companies are at a very big threat of bankruptcy is the fact that – due to legislation restricting the reduction of purchased labor – adjusting to a lowered production capacity is very expensive. Therefore, growing companies are better able to increase labor productivity and achieve especially big competitive advantages. Removing this problem by always allowing labor reduction "within" employees is fundamental in making the market more fair and adaptable to economic declines and structural changes.[1342] Of course, also excess capacity of capital investments make decline in a company's sales lethal, but (a) machinery can often be sold to competitors (as opposed to costly labor reductions) and (b) if a decline in demand is due to the whole industry declining, competitors face the same costs of *writing off* the excess capacity from their balance sheets.

Richard Smith points out that shareholders demand growth:

> "Thirdly, the modern corporate form of ownership adds irresistible and unrelenting pressures to grow from owners (shareholders). Corporate CEOs do not have the freedom to choose not to grow or to subordinate profit-making to ecological concerns because they don't own their firms even if they own substantial shares." (Smith R 2010, p. 31)

For many companies, a major strategic choice is the emphasis between profitability and growth. The board representing the shareholders is very incompetent if it demands the CEO to pursue growth on the expense of profitability at all cost, for example in a situation where the industry is not expected to grow (demand is declining or competition is expected to otherwise tighten) and the company isn't sure to be able gain significant amounts of additional market share. Growth strategies mainly make sense in growing industries. In declining industry or cycle, shareholder value is rather often maximized by maximizing margins and profitability (by e.g. minimizing capital employed, focusing on cost-reductions or differentiating into a niche) and thereby the possibility to pay dividends[1343] – even on the expense of growth. As Smith himself emphasizes, companies maximize *profits:*

> "And if economic pressures weren't sufficient to shape CEO behavior, CEOs are, in addition, legally obligated to maximize profits – and nothing else." (Smith R 2010, p. 34)

Also, the profit requirement of a company, like that of any capital investment,[1344] is determined by its risk profile and the current return on risk-free credit. And if the yield of risk-free credit can drop negative, also the profit requirements of other investments will be reduced.

Companies merely attempt to maximize shareholder value by providing superior value to their customers (and employees). And this can happen just as well in a declining economy, as production quantities, prices or wages can adjust to keep investments profitable. In such an environment, adaptability and the ability meet the needs of a declining economy become significant sources of competitive advantage.[1345]

1342 See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs", "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1343 Smith, Noah, "The end of growth wouldn't be the end of capitalism", 21st Feb 2013, cited 18.6.2013, http://www.theatlantic.com/business/archive/2013/02/the-end-of-growth-wouldnt-be-the-end-of-capitalism/273367/

1344 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1345 On why the profit maximization objective of individual companies is not unsustainable in itself, see: "1.1.9 Companies as Competing Organizational Forms".

Luckily, even Richard Smith finally finds the Root Bug of Capitalism 1.0 that actually does make it growth-dependent – jobs:

> "Why would anyone want a steady-state capitalist economy? Poll after poll shows that ordinary citizens want to see the environment cleaned up, want to see a stop to the pillage of the planet, the threat of destruction of their children's future. But as workers in a capitalist economy, "no growth" just means no jobs. If limits to growth are imposed, and some industries have to cut back, where would laid-off workers find re-employment? And if the economy does not continuously grow (quantitatively), where would the jobs come from for the workers' children?" (Smith R 2010, p. 35)

When addictions cause problems, it is easy to start blaming and demonizing the subject of addiction itself. This happens easily in the case of drugs as well: The fact that drug addictions cause a lot of harm to individuals and societies makes governments wage "wars" against all kinds of drugs – except, hypocritically, those already established as part of the local culture (like ethanol, caffeine and nicotine).

The irrelevance of the whole question of whether economic growth is "good" or "bad" is discussed in more detail in the chapter "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate". One of the main points of this book is that most of the problems of our economic system are not results of economic growth itself – but of the system's *dependence* on economic growth. And that getting rid of the growth dependence is also the best way to facilitate healthy, desired growth.[1346]

3.1.2.3 'Lack of Growth Increases Inequality' – Piketty's 'r>g Dilemma' Solved

In short:

- ***Thomas Piketty claims that as capital always makes around a 5 % profit (r) and "capitalists" tend to save their profits, the ratio of capital to total income (the size of the economy) and hence the income share of capital inevitably grows if the economy grows slower than this 5 %.***
- ***Fortunately, capital does not always need to make a 5 % profit. With the Root Bug fixed, r could even turn negative.***

In fall 2013, the French economist Thomas Piketty published his book "Capital in the 21st Century." Though the main point of the book is to bring together vast amounts of historical data, it also includes a simple theory suggesting that when the rate of economic growth, i.e. the increase in total income (g) exceeds the average returns on capital (r), this is bound to result in an increase in the ratio ($\beta = K/Y$) between capital (K) and total national income (Y), a constant accumulation of further wealth – "all forms of explicit or implicit return-bearing assets" (Milanovic 2013, p. 3) which is how he defined "capital" – into the hands of the few and hence also increasing income inequality.

> "But if the rate of return on capital (r) remains permanently above the rate of growth of the economy (g) – this is Piketty's key inequality relationship r>g – then α increases by definition, and combined with the increasing β, might drive the share of capital in national income sky-high. The process has a positive feedback loop: as α increases, not only do capital owners become richer, but, unless they consume the entire return from their capital, more will remain for them to reinvest." (Milanovic 2013, p. 4)

The first conclusion (in the above quote from the review by Branko Milanovic of the World Bank) isn't quite correct. As $\alpha = r\beta$,[1347] with a steady β, α only increases if r increases. r being anything in relation to g does not make α increase by "definition." Of course, *if we assume* that a significant portion of income on capital is always saved, while other income is hardly saved at all, then we can assume a connection between the growth in the amount of capital (K) and the return on capital (r). And, of course, if the amount of capital grows faster than the total amount of income (Y), then the ratio between them (β) grows. And with a fairly constant average return on capital (r), also the income share of capital (α) grows.

But, as Branko Milanovic writes, even with these assumptions the judgment is not final:

> "The 'model' however crucially depends on the inequality r>g. If r=g, then capital and national income increase at the same rate, β is stable and the share of capital in total output remains the same." ... "Thus, whether Piketty's approach survives or breaks down turns on whether the evidence for r>g is sufficiently strong or not." (Milanovic 2013, p. 5)

1346 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1347 "The first fundamental law states that the share of capital incomes in total national income (α) is equal to the rate of return, in real terms, on capital (r) multiplied by β. There is nothing new here: this is simply an identity." (Milanovic 2013, p. 3)

Many reviewers draw the conclusion that achieving constant growth (g) is the most sustainable way to avoid this effect of increasing wealth and income inequality.[1348] If this is the only alternative, then e.g. advocates of "eco-socialist economic democracy" (Smith R 2010, p. 38) like Robert Smith are correct in their claim that the profit requirements on capital *do* result in a constant requirement for growth.[1349] And also, the conclusion that growth would solve the increasing wealth inequality is a bit rash: If the assumption is that the profits (r) are mostly saved, then capital would still accumulate more capital and wealth would be concentrating more and more into few hands – even if β remains stable.

Milanovic, importantly, draws attention to r:

> "The validity of Piketty's 'model' thus depends on the key proposition of relative stability of the rate of return on capital." (Milanovic 2013, p. 10)

If there is excess capital, shouldn't this decrease the return on capital (r)?

> "But, the reader will ask, if the capital/output ratio increases so much, would not the marginal return to capital diminish? Would not r go down? This is obviously a soft point of Piketty's machinery." (Milanovic 2013, p. 9)

> "Will the reader be convinced by the argument that the elasticity of substitution between capital and labor is likely to remain high, and that an increase in capital will not drive r down? It is difficult to say. Piketty's arguments, particularly those drawn from economic history and the data he has put together, are strong, even persuasive (see for example his estimation of two centuries of net return on capital in France and the UK, in Chapter 6). But he is running against one of the fundamentals of economic theory: decreasing returns to an abundant factor of production." (Milanovic 2013, p. 10)

And the problem (demonstrated by Piketty's historical data) is that the return on capital does *not* go down the way theory suggests it should when it is abundant. And it won't go down in the future either if capital maintains its minimum wage[1350] and the returns it can obtain through rise in limited, vital resources and monopolies.[1351]

Many critics (especially Georgists) point out that a large part of the increase in "capital", which Piketty's data demonstrates, has in fact been increase in the value of "land".[1352] [1353]As John K. Galbraith points out, Piketty's whole theory is problematic in that he *measures* the *amount of capital* by its *market value* – when capital essentially *is* capitalized future income and this valuation depends heavily on the interest rate.[1354] When the interest rate (the costs of capital) drops low, the return on assets does not go down, but mainly shifts from producible production goods to monopolies[1355] – mainly as rise in their value, resulting from the monopoly returns that cannot drop, as supply is limited.

If land was (and patents were) taxed properly according to market value, other monopolies were eliminated and interest rates could fall negative when there is an oversupply of capital (and hence labor), nothing says that r needs to remain around 5-6 % (though it is very understandable why it has done so historically). Not only would these corrections reduce the piling up of wealth further into fewer hands, but it could sever the link between *wealth inequality* and *income inequality*. Even if wealth still remained in fewer hands for a long time, this wealth would only receive income when there is a deficit of capital – or if used to bear productive risks (e.g. by investing in innovative startup companies and large investment projects) that others dear not take.[1356]

Unfortunately, Piketty wants to *reduce* taxes on real estate from those with low net wealth and perpetuate the

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1348 "A related issue is Piketty's treatment of the growth rate. Boosting economic growth is something politicians are always promising to do. And according to Piketty, growth-boosting policies would forestall the growth of patrimonial capitalism." ... "The politically easiest way to avert Piketty's prophesy of doom would be to increase the economic growth rate."
– Yglesias, Matthew, "The short guide to Capital in the 21st Century", Vox, 8th Apr 2014, cited 12.4.2014, http://www.vox.com/2014/4/8/5592198/the-short-guide-to-capital-in-the-21st-century

1349 See: "3.1.2.2 'Companies Have to Grow or Die'".

1350 See: "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

1351 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

1352 Smith, Karl, "Piketty and the case for land capital", Financial Times Alphaville, 3rd Feb 2014, cited 11.4.2014, http://ftalphaville.ft.com/2014/02/03/1759582/piketty-and-the-case-for-land-capital/

1353 This is clearly the case e.g. for the UK and France: A majority of the increase in wealth has been in housing. On the other hand, it can be argued that the U.S. economy has seen an increase in large monopolistic or monopoly-like corporations. E.g. the oil industry is protected from competition by the limitedness of the resource that it is harvesting (and the price of which is sustained by the OPEC cartel) and "Big Pharma" is not subject to efficient price competition due to extended patent protections. In any case, it is unlikely that this would be the result of an increase in the overall capital intensity of the used production technologies, which would be the other alternative. (See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".)

1354 See: "Sidenote Box 11B: The Trouble with Measuring Capital Financially: 'The Cambridge Capital Controversies' and Piketty's 'Capital'" and "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1355 Madigan, Kathleen, "Landlords see biggest income gains", Wall Street Journal, 27th Sep 2013, cited 12.4.2014, http://blogs.wsj.com/economics/2013/09/27/landlords-see-biggest-income-gains/

1356 See: "3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity".

constant unearned returns[1357] to homeowners compared to those living more flexibly on rent.

> "[M]y point is not at all to destroy wealth. My point is to increase wealth mobility and to increase access to wealth." ... "Think of the US right now where you have the property tax, which is a lot of money. That's a very big tax." ... "Now what I would propose is to transform it into a progressive tax on net wealth. That means that I would reduce the property tax for all those who have low net worth, and increase it on those who have billions."[1358]

Here he seems to follow Marx's and Engels's ideology:

> "The distinguishing feature of communism is not the abolition of property generally, but the abolition of bourgeois property." (Marx & Engels 1848, p. 14)

Wealth *should* be destroyed when it is based on a monopoly or another kind of sustained "diamond bubble"[1359] (as opposed to e.g. a productive shift to more capital-intensive production technologies[1360]). Also, it is by no means optimal that – just to reduce inequality – everyone, even the more risk-averse of us, should be forced to carry the risks of investments – especially those of real estate, which are largely systemic risks.

3.1.2.4 The Welfare State Arguments – Living Standards, Jobs and Tax Revenues

In short:

- ***Welfare and "happiness" are very subjective matters – people don't always want to maximize their purchasing power. And, most notably, someone else increasing it for them can have inverse effects.***
- ***Public sector revenues should not be so dependent on the amount of economic activity and taxing transactions heavily makes little sense in any case. Nor does it make sense to require people (by e.g. guilt) to keep on working and spending more and more, just to be able to transfer enough income to people out of work against their will, or just so that the government can afford to maintain services that people don't necessarily consider worth the effort (just to keep others full-time employed) and institutions that might be outdated.***

> "When a politician talks about the 'welfare state", it's worthwhile checking carefully whether he talks about the welfare of the citizens, or of the state." – Jussi Lähde

When asking people (or politicians) in Nordic welfare states, why we need growth, common answers are:

- "People want more 'welfare' or 'higher living standard.'"
- "People need jobs."
- "We can't finance the welfare state without growth."

The third one is also a common argument for why any kind of "downshifting" is bad and "irresponsible" – like we'd be living in a communist kolkhoz (or a work camp for building e.g. pyramids) that is serving some kind of universal, common goal and where everyone needs to put in their full effort regardless of their personal preferences.

The claim of the first argument cannot be expected to apply for everyone: People also attribute utility to free time – not just additional products and services – and thereby maximizing people's well-being does not always mean maximizing their income. Welfare (actual welfare, not just material living standards that are often referred to as "welfare") and happiness are very subjective issues and people should be allowed to choose whether additional purchasing power increases their "welfare" more than additional free time would.[1361]

The second is the main subject of this book: "Why do we need more work for there to be enough work for everyone?" "Why is the unit of labor a human being?" Hopefully these questions are starting to sound rhetoric by now.

The third argument comes close to the logic of the "Laffer curve"[1362]: Increasing tax percentages may start decreasing total tax revenues, as the taxes discourage economic

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1357 See: "4.3.1.6 Case: Helsinki Metropolitan Region".
1358 Yglesias, Matthew, "Thomas Piketty doesn't hate capitalism – He just wants to fix it", interview, 24th Apr 2014, cited 27.4.2014. http://www.vox.com/2014/4/24/5643790/who-is-thomas-piketty#interview
1359 See: "4.3.1.6 Case: Helsinki Metropolitan Region".
1360 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

1361 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness" and "Sidenote Box 215A: The Neoclassical Growth Model and Utility".
1362 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Industry Profits and Auctioning Resources".

activity and therefore the only way to raise more tax revenues from economic activity (sales, labor, profits etc.) is to increase economic activity. For example Finnish economist Sixten Korkman claims that economic growth is not the prescription of [mainstream] economics, but that maintaining the welfare state requires a "broad tax base" and that if everyone wanted to "work less and enjoy more leisure time", this would require downsizing the welfare state. (Korkman 2012, p. 131-132)

Downsizing the "welfare state" (the waste creation and transfer payment machine it has become[1363]) might also be considered a desirable goal, but, in any case, the "tax revenues" argument raises the question, why do we tax economic activity and transactions so much in the first place? If the government wants more economic activity – the "movement of money" – then why not rather tax the "non-movement" of money (hoarding risk-free credit) than its movement? And as a government is one of the few instances that can prevent individuals from extorting each other with monopolies and hoarding limited, vital resources,[1364] then shouldn't the government rather finance itself by charging for these resources and keeping some of the profits from these monopolies? This is discussed in more detail in "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

It does not make much sense to keep people working and spending more just so that we can make them pay more taxes. Also, the "welfare states" seem to want to maintain many public services without questioning whether people consider those services to be worth their costs. And, here, the need to maintain employment is a major factor.[1365] What makes even less sense, is arguing that people currently working need to work more so that transfer payments to people not working (despite having the ability to) could be maintained, or that institutions existing mainly to keep other people employed could be funded with tax revenues.

1363 See: "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics", "6.3.2 Appendix 3.2: The Challenges with Democracy" and "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
1364 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land" and "4.3Eliminating Private Monopolies and (Other) Privileges".
1365 See: "3.1.8 Public Sector Inefficiency".

3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?

In short:

- *In a world with evolving technologies and changing consumption preferences, there will always be structural labor imbalances between regions and different kinds of work. But if the unit of labor weren't a human being – if it was always profitable to share work – these imbalances would mean temporary structural underemployment and overemployment, instead of sticky structural unemployment and labor deficits.*
- *In addition to the immediate short-term flexibility made possible by the resulting room for adjustment "within people", this would also maximize long-term flexibility, correcting structural imbalances by giving everyone working in an "oversupplied" industry the incentive to consider training themselves for a more direly needed line of work – making the wage mechanism work fairly and flexibly.*

> "[J]ust as there cannot be a uniform price for all kinds of labour, an equality of demand and supply for labour in general cannot be secured by managing aggregate demand. The volume of employment depends on the correspondence of demand and supply in each sector of the economy, and therefore on the wage structure and the distribution of demand between the sectors." – Friedrich A. Hayek, Choice in Currency: A Way to Stop Inflation (1976, p. 10)

> "The feasibility and continuity of structural change are assumed in the neoclassical view because technology is identified as freely available information such that the notion of

technological capabilities is irrelevant, and because it assumes constant-returns-to-scale production functions." ... "The neoclassical view does not distinguish between the allocation of resources for existing industries and for industries that are only beginning to emerge. Structural change therefore is considered an automatic process that is successfully mediated by market forces." – Moshe Justman & Morris Teubal (1991, p. 1169)

"In many different manufactures, however, the operations are so much alike, that the workmen could easily change trades with one another if those absurd laws did not hinder them. The arts of weaving plain linen and plain silk, for example, are almost entirely the same. That of weaving plain woolen is somewhat different; but the difference is so insignificant that either a linen or a silk weaver might become a tolerable work in a very few days. If any of those three capital manufactures, therefore, were decaying, the workmen might find a resource in one of the other two which was in a more prosperous condition; and their wages would neither rise too high in the thriving, nor sink too low in the decaying manufacture." – Adam Smith, Wealth of Nations (1776, p. 197)

"All those talented Korean youngsters who could be brilliant scientists and engineers are laboring over human anatomy. Many U.S. workers who could – after appropriate retraining – be working in 'sunrise' industries (e.g., bio-engineering) are grimly holding on to their jobs in 'sunset' industries (e.g. automobiles), only delaying the inevitable.

The point of all the above examples is that, when people know they will have a second (or third or even fourth) chance, they will be much more open to risk-taking when it comes to choosing their first job (as in the Korean example) or letting go of their existing jobs (as in the US-Europe comparison)." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 227)

"When you understand that form, feeling, perception, formations, and consciousness are impermanent then you understand right view." – The Buddha, Samyutta Nikaya, XXII, 51

"Everything flows and nothing abides, everything gives way and nothing stays fixed." – Heraclitus

At the end of chapter "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence", an observant reader would likely be pointing out that cyclical (i.e. "Keynesian") unemployment is just one part of the story. Additionally, there is:

- Structural unemployment: unemployment caused by mismatches between needed and available *types* of labor and employee *skills*, or between the geographic *location* of employees and earning opportunities.
- Friction unemployment: the time it takes between positions to find the new one or to re-educate oneself.
- Long-term unemployment and marginalization (hysteresis): people becoming labeled as "failures" and losing their self-confidence and productivity altogether.
- Classical unemployment: minimum wages or other restrictions preventing buying and selling labor at the price that supply and demand and a person's productivity would require to make a person's labor worth buying.
- Motivational unemployment: voluntary unemployment (including "welfare bumming"[1366]).

In mainstream economics, NAIRU (Non-Accelerating Inflation Rate of Unemployment) refers to a level of unemployment below which inflation starts accelerating (Hatzinikolaou & Kammas 2010, p. 441; Coe 1985). Typically the NAIRU is around 5-6 %, but in countries with rigid labor markets and extensive social support schemes (and longer periods of higher unemployment in their near past) like Canada and the Nordics, it tends to be higher. NAIRU is also what is often called "low unemployment" and often such a level is accepted as "full employment" – as full as is stably achievable. Unemployment is thus not only considered a necessary evil that has to be tolerated, but – because of the "natural law" of NAIRU – it can even

1366 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

be considered a *tool* for controlling inflation and keeping the economy stable.

Now, don't think you are completely delusional if these kinds of statements sound about as sensible (and humane) as saying that a school cannot remain a peaceful learning environment, unless the percentage of bullied children is maintained at least at 5 % (if someone e.g. argued that the larger mass of popular and "accepted" students needs this bunch of outcasts to pick on in order to establish their own identities as valuable human beings). The idea of using unemployment – human despair – as a tool for controlling the general price level sounds twisted for a reason.

What is it exactly that causes inflation to get out of hand with unemployment rates lower than this magical NAIRU level? According to the laws of supply and demand, prices rise when the supplied amount is smaller than the demanded amount.[1367] Thus wages rising usually means that there is a labor deficit – an insufficient supplied amount with the previous prices. But if there is simultaneously also unemployment, this can only mean a structural mismatch of some kind. The NAIRU unemployment is mainly structural and friction unemployment – there is a deficit of employees in some skills or regions, while there are people who can only do the types of jobs that are already filled.

In a state of stable inflation, the amount of industries with a deficit and a surplus don't necessarily equal each other. Especially, if reductions in wages are limited with collective agreements or minimum wages, the total amount of unemployment compared to labor deficits in some sectors is likely to be relatively large. Such regulations also cause an increase in "classical unemployment" – some people's productivity not reaching the set wage level – and persistence of the structural mismatches (as will be explained). This partly explains why countries with strict labor market regulations and unionization tend to have a higher NAIRU than countries with a more flexible labor market.

Due to constant changes in production methods and people's preferences, spurred largely by technological progress, more unpredictable mismatches emerge faster than old ones can be fixed by e.g. re-educating people. Also the risks and bureaucracy of recruiting increase friction between jobs.[1368] Short-term adjustments always require some room for flexibility. Thus structural NAIRU unemployment is incurable – as long as the unit of labor is a human being!

1367 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

1368 See: "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions".

If it were always profitable to share all the employment opportunities within a profession and region to as many employees as are available, the structural slack would be in the amount of work available *per employee* and not in the number of employees employed – "internal numerical flexibility" instead of "external numerical flexibility".[1369]

But even more importantly, these imbalances would be rebalanced far more effectively, than in the current system. An "oversupply of labor" would no longer mean that "there are too many people willing to do a kind of work", but that "suppliers of a kind of labor do not get to provide as much work as they would want to" and that they are hence willing to compete over getting to supply those additional units of labor by lowering the wage they are asking. Both the reduced units of work available for everyone and the dropping wages would affect the income opportunities of *all* the employees supplying that kind of labor, giving everyone the incentive to consider their other alternatives. Thus the ones with the best chances of being productive and useful in another company, profession or region – who already have a suitable training or the best chances of acquiring it as well as a flexible life situation – would be the first ones to change position, profession or area. The available room for flexibility in the labor market would be utilized much more efficiently.

In the current state of market economies, there is no correlation between an employee's chances of getting fired and her ability to find a new job or move after a job. On the contrary, it is often the least versatile individuals that are dismissed. Other employers know this and are therefore even more reluctant to hire people who have been laid off. Who would want the bottom of the pack? The employee also – at least subconsciously – feels like a useless reject, a failure. This loss of self-esteem further lowers her self-confidence and productive capability. The extended idle time starts eroding the employee's skills further, as his touch with work starts slipping and his technological skills fall behind progress. The current system is practically a *"marginalization machine"* creating long-term unemployed social outcasts!

Empirical research clearly shows this phenomenon of "hysteresis" (Blanchard & Summers, 1986) on both the level of the whole economy and on the level of individuals: Periods of high unemployment tend to increase the NAIRU, and the expected remaining duration of unemployment of an individual is the longer the person has been unemployed so far. (Layard et al 1991, p. 220-255)

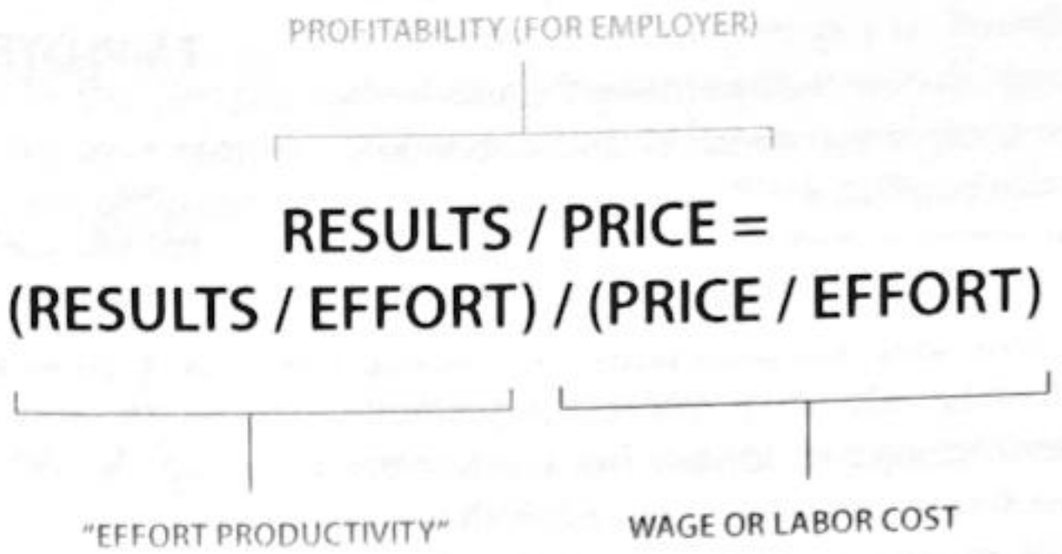
As for increasing potential for intersectoral mobility, it is also of utmost importance to ensure that everyone has the opportunity to re-educate themselves for any line of

1369 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

work that they have the desire and potential to learn.[1370] If education opportunities or operating licenses are restricted, the feedback effect of the wage mechanism turns on its head.[1371]

Regional flexibility is harder to increase, as one's personal relationships – family and friends – impose almost unavoidable costs on moving to another city. However, another notable limiting factor e.g. in Finland is homeownership, which is unnecessarily subsidized by the taxation system and other governmental measures.[1372] Studies from both the U.S. and Europe have found significant correlations of homeownership and unemployment between regions with a time lag, which suggests that homeownership "produces negative 'externalities' upon the labor market". (Oswald & Blanchflower 2013; Laamanen 2013; Layard et al 1991, p. xvii)[1373] [1374] [1375] Removing such unnecessary subsidies and taxing land would increase rental-based accommodation and lower the threshold of moving after work somewhat. However, also for regional flexibility, the best thing we can do is to make local oversupply affect everyone's earning opportunities in a sector to ensure that the ones for whom moving has the lowest costs are the first to move.

The low possibilities of working less (the absence of "a market for free time",[1376] even in the mid-term as e.g. sabbaticals) in many high-skilled professions are also causing a big waste of potential talent and passion. People with e.g. high leadership or analytic capabilities and interest in management and consulting work might choose not to pick such a career for the sole reason that they have other interests as well and don't want to devote their whole lives to working. In Japan, this has created the "Hodo-Hodo zoku" (the "So-So tribe") phenomenon: Some younger workers refuse promotion to minimize stress and maximize free time.[1377]



GRAPH 28: THE PROFITABILITY OF AN EMPLOYEE TO A COMPANY IS A FUNCTION OF THE EMPLOYEE'S (UNIT) PRODUCTIVITY AND THE WAGE THE EMPLOYEE IS PAID.

If we had, as a hypothetical example, a relative deficit of Java programming work, we want everyone with any capability for programming to take it on, even as a part-time occupation.[1378] It is harmful for both structural adaptability and minimizing income differences that one needs to choose one's career according to the total share of one's life that one wants to spend working. There would be few cases where such trade-offs are unavoidable (such as very top management) if it just weren't for the current game-theoretical setting in the labor market, where employment is "all or nothing".

Of course now you might argue that employers always want to keep their most productive employees. Doesn't that justify firing those of the company's choosing instead of cutting work more evenly and seeing who leaves, if anyone? This is a problem only if wages are regulated. If the "best" employees are far more productive in their current position than anywhere else (which they often are, as they've invested into getting to know that company's processes), they will stay – as long as they are paid according to their productivity and find their current work rewarding.

The profitability of an employee for the employer is a function of the productivity of her work and the wage she is paid (assuming fixed prices of end products). If employee B is only half as productive as employee A, she can still be more profitable to the company to employ if she is paid less than half of what A is paid.

When wages are limited, centrally controlled or collectively negotiated so that everyone has to be paid the same, then of course the least productive are the first

1370 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".
1371 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'" and "3.2.2 Unfair Income Differences and Limits to Social Mobility."
1372 See: "4.1.3.3 Other Ways of Encouraging Giving Work to Investors, Spenders and the Indebted?", "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".
1373 Hakala, Pekka, "Omistusasuminen voi lisätä työttömyyttä", Helsingin Sanomat, 19th May 2013, http://www.hs.fi/talous/a1368850297654
1374 Hurri, Jan, "Liian kallis asuminen Suomen piilevä talousjarru", Taloussanomat, 28th Aug 2013, cited 26.11.2013, http://www.taloussanomat.fi/jan-hurri/2013/08/28/liian-kallis-asuminen-suomen-piileva-talousjarru/201311878/170#back
1375 Eronen, Eeva, "'Luopukaa jo omistusasumisen ihannoinnista'", Taloussanomat, 21st Nov 2013, cited 26.11.2013, http://www.taloussanomat.fi/asuminen/2013/11/21/luopukaa-jo-omistusasumisen-ihannoinnista/201316129/310#back
1376 See: "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs".
1377 Tabuchi, Hiroko, "Slacker nation? Young Japenese Shun Promotions", The Wall Street Journal, 1st Nov 2008, cited 10.9.2013, http://online.wsj.com/article/SB122548483530388957.html

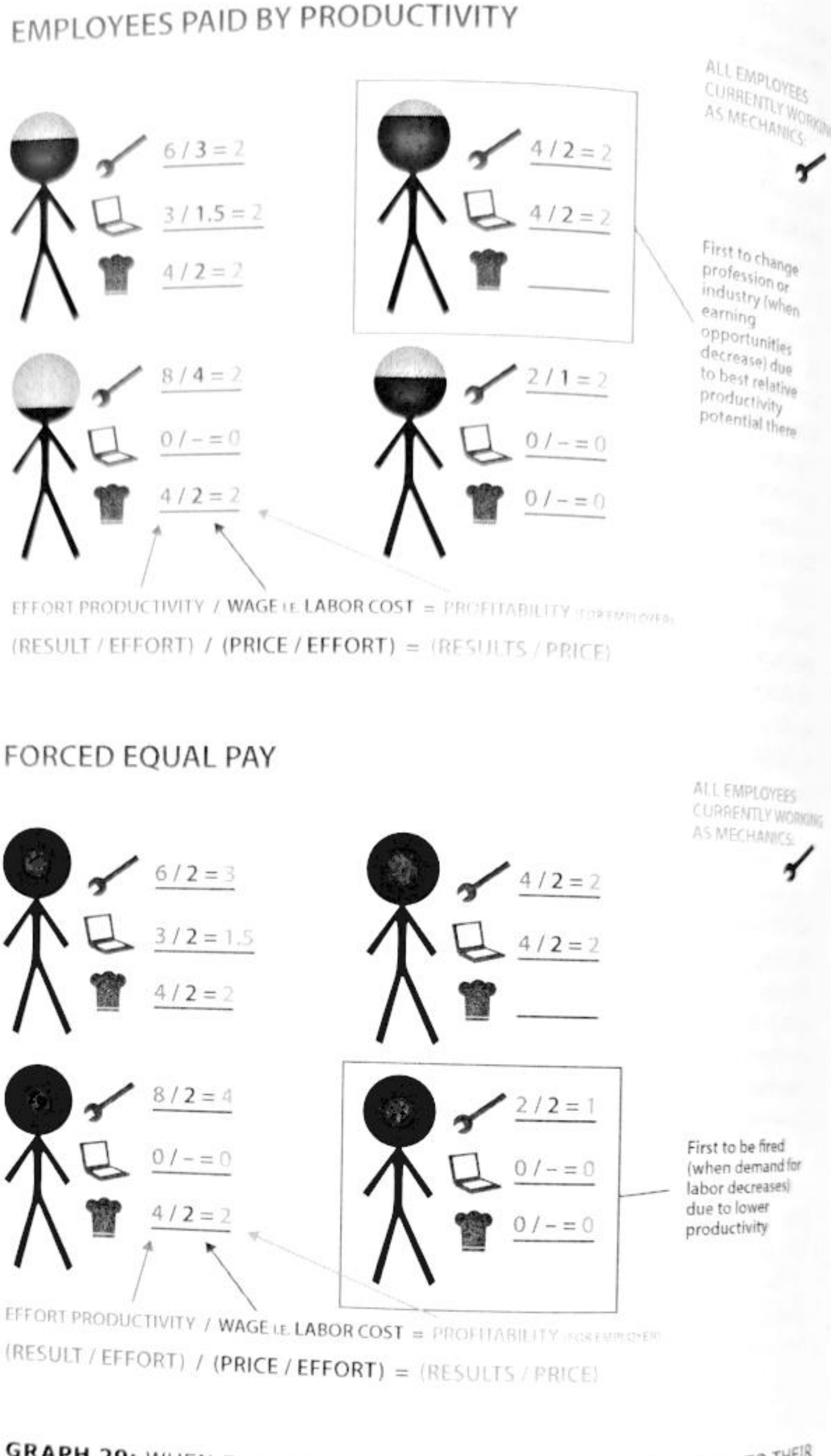
1378 Of course, if the number of education opportunities is limited, then downshifting in such high-skilled jobs further worsens the labor deficit, as explained in "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

to be fired. However, if employers are allowed to pay employees according to how valuable they perceive them to be to the company, then all employees can be made equally *profitable* for the employer to employ and it shouldn't make a difference who it is that decides to leave.

In such a situation where the available earning opportunities in a company are reduced, it will be those that are able to find relatively the best earning opportunities elsewhere – and with the most flexible life situations and mindset – who will voluntarily change employer or profession first – and leave more work for the others staying behind.

Removing wage restrictions would also remove most of "classical unemployment". How fixing the Root Bug would eliminate the possibility of employee extortion and unfair income differences is explained in "3.2.2 Unfair Income Differences and Limits to Social Mobility".

What about motivational unemployment, then? When people cannot blame their unemployment on cyclical and structural issues anymore, there would be nothing unjust in limiting the cash component of social support (the economic freedom it provides) in order to make welfare bumming less lucrative. This is explained in more detail in "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free". If motivational unemployment is a result of previous savings or adequate capital income (instead of transfer payments), then it can be considered "sharing work" to those in more need of it, which is a beneficial choice in terms of the society (it has more positive than negative externalities) by all means.


EMPLOYEES PAID BY PRODUCTIVITY
6 / 3 = 2
3 / 1.5 = 2
4 / 2 = 2
4 / 2 = 2
4 / 2 = 2
ALL EMPLOYEES CURRENTLY WORKING AS MECHANICS:
First to change profession or industry (when earning opportunities decrease) due to best relative productivity potential there
8 / 4 = 2
0 / – = 0
4 / 2 = 2
2 / 1 = 2
0 / – = 0
0 / – = 0
EFFORT PRODUCTIVITY / WAGE I.E. LABOR COST = PROFITABILITY (FOR EMPLOYER)
(RESULT / EFFORT) / (PRICE / EFFORT) = (RESULTS / PRICE)
FORCED EQUAL PAY
6 / 2 = 3
3 / 2 = 1.5
4 / 2 = 2
4 / 2 = 2
4 / 2 = 2
ALL EMPLOYEES CURRENTLY WORKING AS MECHANICS:
8 / 2 = 4
0 / – = 0
4 / 2 = 2
2 / 2 = 1
0 / – = 0
0 / – = 0
First to be fired (when demand for labor decreases) due to lower productivity
EFFORT PRODUCTIVITY / WAGE I.E. LABOR COST = PROFITABILITY (FOR EMPLOYER)
(RESULT / EFFORT) / (PRICE / EFFORT) = (RESULTS / PRICE)

GRAPH 29: WHEN EMPLOYERS CAN PAY EMPLOYEES ACCORDING TO THEIR (PERCEIVED) PRODUCTIVITY, EACH EMPLOYEE IS (PERCEIVEDLY) EQUALLY PROFITABLE TO EMPLOY.

> "The entrepreneurial discovery approach reminds us that the degree of achieved social efficiency (or even the degree of efficiency that will be achieved in the equilibrium state toward which a market may be converging) is not the only dimension along which to judge the economic success of a social system. Just as important, surely, is the speed and accuracy with which the system is able to identify and overcome the waste and discoordination of disequilibrium situations." – Israel M. Kirzner, The Driving Force of the Market: Essays on Austrian Economics (2000, p. 24)

3.1.4 Private Credit Crises, Mass Defaults and Overleverage

In short:

- ***Credit crises with massive quantities of credit defaults can either be caused by reckless lending – which are often the result of situations where the creditor does not need to carry all of the risks involved – or systematic risks, such as cyclical mass unemployment.***
- ***Maintaining the correlation of people's income opportunities and willingness to spend and invest, and thereby eliminating risks of mass unemployment as well as ensuring that financial institutions (their shareholders and risk creditors) need to carry the risks they take are the best ways to prevent credit crises.***
- ***Excessive amounts of debt in the economy of course also make credit crises bigger and more likely. The root cause of "overleverage" is different for banks, other companies, private individuals and the public sector – but "too low interest rates" alone are hardly ever to blame.***

A *credit default* is a situation where a debtor is unable to "make the required payments on [its] debt obligations". In this situation, the creditor incurs a credit default loss.[1379]

Defaults on corporate debts usually occur in the form of a bankruptcy.[1380] Private companies – competing organizational forms[1381] – are meant to go bankrupt when they fail to compete, and thus the only way to avoid or contain default losses in corporate bonds is for the creditor to demand more risk-carrying equity investments from owners or to file the company bankrupt early enough.

In the current system, the situation with human debtors is also similar: Anyone could become unemployed at anytime and, in the current labor market setting, the risk of remaining so is quite high.[1382] If the value of e.g. the apartment used as collateral drops below the principal of the mortgage and the individual does not have enough other property to cover for the difference, the bank has to sell the asset off as soon as possible to avoid further losses. Due to the banks' large portfolio, the risks of individual loans can be diversified, but cyclical risks – which include both a raised risk of unemployment and a possible market-wide drop in real estate prices – cannot be diversified. This was seen in 2008 when the U.S. real estate bubble burst. When the value of all assets of a kind drop at the same time, diversification *within* that asset class does not help much. Simultaneously, as the uncertain economic environment reduced consumption and investments, unemployment and risks thereof grew dramatically, making every mortgage holders' future income very uncertain.

But, what if, when demand dropped, instead of firing people, work was, in most cases, reduced from multiple employees? And what if those who were fired would constantly gain a better negotiation position to find work the longer they were unemployed? The drop in the market value of the collateral (the real estate in this case) would not be such a big issue, because no one would completely lose her ability to pay the interest. At most, the (temporary) reduction in work and thus income would require rescheduling the loan repayments, such as e.g. taking a temporary reverse mortgage.[1383] In many cases, even this would be unnecessary because reduced spending and investing commonly coincides with the central bank lowering interest rates, which would make it easier to repay the debt, compensating for the income losses.

Additionally, in the case of temporary supply or demand shocks, much of the lost income would soon be returned. Any structural imbalances would be smoothened out when the most versatile employees start moving to other industries.[1384] Desired long-term economic growth would not be threatened, because, without any fear of permanent long-term unemployment (and thereby loss of income), people are far more confident to spend off savings or

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1379 "Default risk", entry, Investopedia, cited 28.7.2014, http://www.investopedia.com/terms/d/defaultrisk.asp

1380 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks", "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility" and "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

1381 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1382 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs."

1383 "Reverse mortgage", definition, Investopedia, cited 3.2.2014, http://www.investopedia.com/terms/r/reversemortgage.asp

1384 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

even take on more debt to cover for temporary losses of income.[1385]

By removing cyclical and structural unemployment, this kind of automatic sharing of income opportunities (induced by incentives[1386]), would significantly reduce the risk of consumer credit defaults and especially catastrophic chain reactions thereof.

It is true that the large amounts of debt in general make our current economic system very prone to credit crises. And it is very popular to blame the large amounts of debt on too low interest rates – typically, along our Protestant work ethic, the borrower (or the one facilitating cheap borrowing) is always guilty. But this ignores the effect that interest rates have on the profitability of holding credit (monetary savings) – and the mathematical fact that debts cannot be paid back if creditors don't spend off their credit.[1387] It is worth noting that the overleverage andexcessive indebtedness of different parties have different causes:

- Overleverage of (non-bank) companies: The double taxation of dividends and profits compared to interest costs, which results in credit finance providing a "tax shield".[1388]
- Overleverage of banks: Implicit government bailout expectations and especially the free deposit guarantee, which keeps credit costs low[1389] (together with the previously mentioned tax shield).
- High private sector debt levels (relative to income): The high profitability of homeownership compared to living on rent, due to the monopoly nature of location (land), which capitalizes infrastructure investments and rises in living standards into real estate prices and makes them a constant bubble.[1390] This excessive borrowing is further exacerbated by subsidies and public guarantees for mortgages. Also the fact that banks don't have to fully carry their own risks (see above) keeps risk premiums low even for insolvent private borrowers.
- High public debt: Excessive saving by the private sector – due to too high interest rates on savings – which requires fiscal stimulus to prevent economic collapse.[1391] Also, the public sector's dependence on transaction taxes (with their "Laffer curve nature") makes paying off debts difficult even during growth trends.[1392]

And fixing the Root Bug would significantly affect most of this causes. Of course, banks that grant completely unrepayable loans would rightfully suffer credit losses and go bankrupt themselves. How the risks of these bank bankruptcies could be contained to the bank's shareholders and uninsured creditors is explained in the next chapter, "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".

1385 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".
1386 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".
1387 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".
1388 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources" and "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".
1389 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".
1390 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
1391 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing" and "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".
1392 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking

In short:

- *The main factor making banks (and e.g. large transportation and energy companies) "too big to fail" is the fragility of the real economy: Even small uncertainty shocks and losses can cause the whole economy to fall into a depression.*
- *It is currently also profitable for banks to overleverage themselves because the implicit promise of a government bailout in the case of "their bets going wrong" limits the downside risk and because the free government guarantee of deposits prevents their credit costs from rising when leverage increases, which is what would happen for "normal" companies.*
- *When the real economy is self-stabilizing, failing banks can be mercilessly bankrupted (their assets nationalized), and setting a price on the government guarantee on bank deposits would make it profitable for banks to remain solvent and transparent, while providing a simple, market-based regulation mechanism based on the yields of the banks' corporate bonds.*

"For every clever person who goes to the trouble of creating an incentive scheme, there is an army of people, clever and otherwise, who will inevitably spend even more time trying to beat it." – Steven D. Levitt & Stephen J. Dubner, Freakonomics (2005, p. 21)

"Which brings us to the largest fragilizer of society, and greatest generator of crises, absence of 'skin in the game.' Some become antifragile at the expense of others by getting the upside (or gains) from volatility, variations, and disorder and exposing others to the downside of losses or harm." ... "The chief ethical rule is the following: Thou shalt not have antifragility at the expense of the fragility of others." – Nassim Nicholas Taleb, Antifragile (2012, p. 5-6)

"Information economics and principal-agent theory are also essential to understanding the problems created by so-called too-big-to-fail financial institutions. Prior to the crisis, market participants believed that large, complex, and interconnected financial firms would not be allowed to fail during a financial crisis. " ... "If creditors in good times believe that certain firms will not be allowed to fail, they will demand relatively little compensation for risk, thus weakening market discipline; in addition, creditors will not have much incentive to monitor the firms' risk-taking. As a result, as predicted by principal-agent theory, firms thought to be too big to fail tended to take on more risk, as they faced little pressure from investors and expected to receive assistance if their bets went bad." – Ben Bernanke, a speech given in 2010[1393]

"[W]e have to get rid of too big to fail. If I was sitting in any other seat other than mine, I would say, 'you should never have to pay if J.P. Morgan fails.' You need a way to bankrupt – and I prefer bankruptcy. It should be called 'minimally damaging bankruptcy for big dumb banks' – as opposed to this vague concept of 'orderly liquidation or resolution.' Kind of sounds like you are resolving us but we may still be around." ... "It needs specialized stuff, 'cause it's just like in a hospital, when they go bankrupt you can't turn the lights off, because they may be operating. In a financial company all you need is that the money keeps on running through the system – doesn't get locked up. It could be done. In fact [it's been] done quite successfully by the FDIC for a long period of time." ... "The regulators say, 'If J.P. Morgan starts to fail and

1393 Bernanke, Ben, "Implications of the Financial Crisis for Economics", Board of Governors of the Federal Reserve System, speech, 24th Sep 2010, cited 17.4.2014, http://www.federalreserve.gov/newsevents/speech/bernanke20100924a.htm

they file chapter 14, here's what happens: The money keeps on moving, the equity holders and the unsecured holders pay everything." – Jamie Dimon, Chairman and CEO of J.P. Morgan[1394]

> "We must never neglect the patient's own use of his symptoms." – Alfred Adler

The trigger of the 2008 credit crisis was the bursting of the U.S. real estate bubble, which devalued a lot of the assets of financial institutions. But what made it such a broad and severe credit crisis was:

- Low solvency of banks that had overleveraged themselves. In other words, they didn't have enough shareholder equity to cover for the risks involved in their assets.[1395] Most notably this included rapidly expanded Icelandic banks and large American investment banks.
- The issue of extremely risky – or practically unrepayable – mortgages and especially hiding the risks of these loans into mortgage-backed securities, which were sold on to investors who had not assessed the risks of the loans themselves.

Why didn't the crisis make banks more responsible and less leveraged? Didn't they learn anything? Yes they did. They learned:

- not to trust each other;
- that the downside of your bets going wrong is much smaller than the upside when you can leverage yourself with government-guaranteed bank deposits (risk-free credit); and
- that if you are big enough and interconnected with lots of other financial institutions, the government can't afford to let you collapse and will bail you out when your "bets happen to go wrong".

As a result, banks have avoided giving each other loans and leveraged themselves yet further. The IMF refers to this as the "too important to fail" (TITF) problem of "strategically important financial institutions" (SIFIs). They receive implicit government backing – other institutions trusting that they will be bailed out if they end up insolvent – which allows higher risk-taking without being adequately subject to market discipline and gives a competitive advantage over less important companies in the form of cheaper credit from other institutions. (Ötker-Robe et al 2011)[1396]

The added value provided by retail banks – their whole business – is in optimizing liquidity and solvency. They price, diversify and carry credit risks and create more liquidity in the market by providing payment services that allow us to trade with private credit – liquid checking account deposits – instead of only government-issued notes and coins. No public institution could be as efficient and unbiased in assessing the risks of private loans. But this also means that when a bank fails at its *raison d'être* – risk management – it should go bankrupt, i.e. shareholders should lose their investments and risk-creditors should take the remaining hit. If this were the expected outcome of a failure, shareholders would make sure that their bank does not overleverage itself and risk creditors would raise their required interest rates to make leverage less profitable.

When the downside of risk-taking is reduced by the expectation of a government bailout – in the form of direct support or cheap loans – then the expected value of raising the stakes and the financial leverage increases significantly. If you could play blackjack with a million dollar stake, but knew the casino would award you the amount (or even a part of it) back in case you lost, of course you'd play that bet – as many times as you could.

Banks – like any other companies – aim to maximize their shareholders' profits[1397] and when being overleveraged and "too big to fail" is profitable, competition forces them to take these high risks and make their possible bankruptcy as damaging to the society as possible e.g. by being interconnected in harmful ways. Even when they don't actully fail, private banks receive hidden, free "government support" in the form of the *expectation* of a government bailout, which allows them to get cheaper credit with better terms from other financial institutions – and cheap, risk-free credit in the form of government-guaranteed deposits. According to the calculations of Finance Watch, for example the Nordic bank Nordea receives annually around 2 billion euros worth of benefits in this form.[1398]

No private, profit-seeking institution should be allowed to become "too big to fail". Banking and finance in general is a challenging sector due to its interconnectedness – both internally and with other businesses. Many nations might

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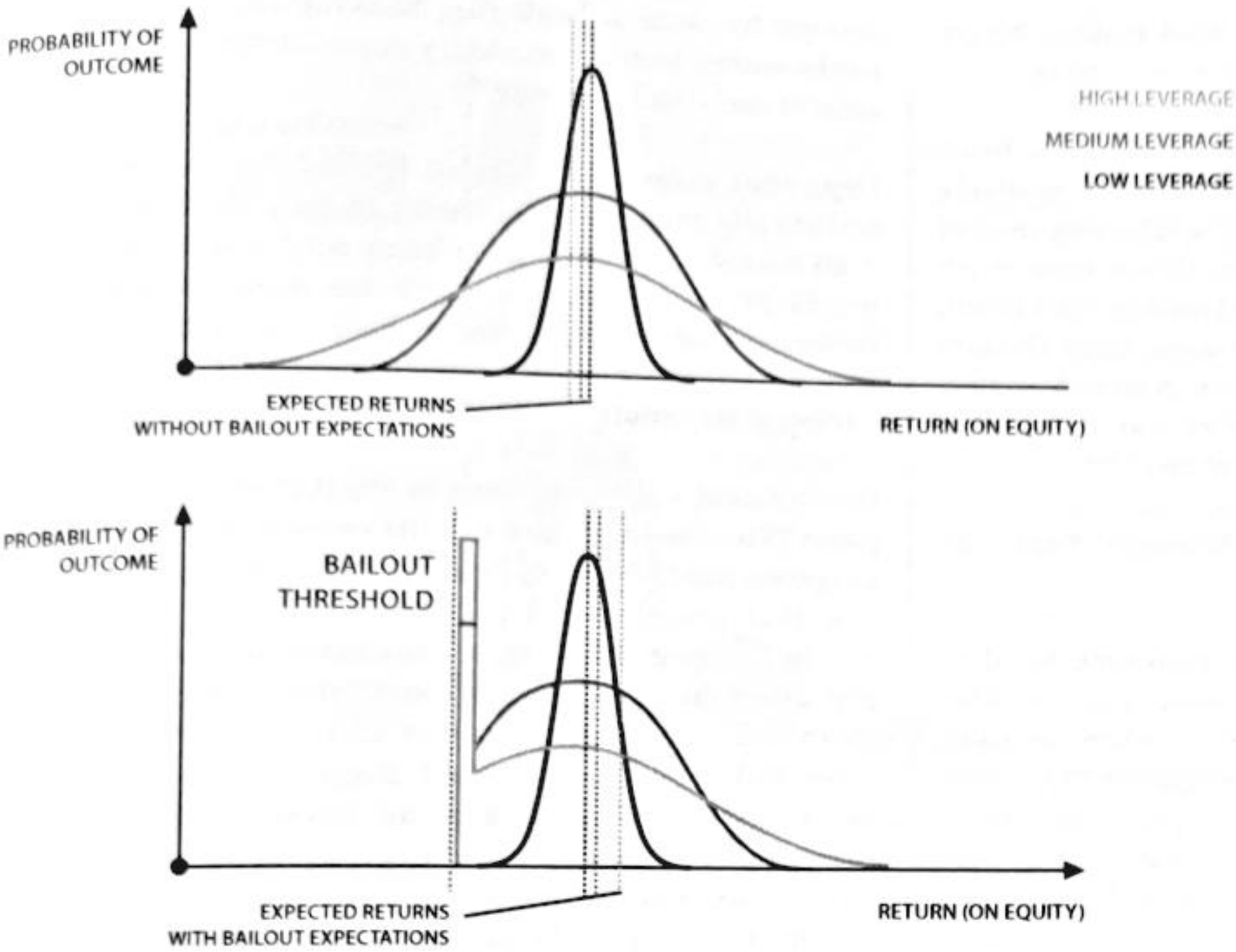
1394 2409->, "A Conversation with Jamie Dimon", interview, viewed 15.9.2013, http://www.youtube.com/watch?v=TU5F5uf7Qdk

1395 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

1396 Ötker-Robe, Inci; et al, 2011, "The Too-Important-to-Fail Conundrum: Impossible to Ignore and Difficult to Resolve", IMF Staff Discussion Note SDN11/12

1397 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1398 Johannes Niemeläinen, "Suomelta miljardien eurojen pitiotuki pankeille", Taloussanomat, 27th Oct 2012, cited 12.12.2013, http://www.taloussanomat.fi/rahoitus/2012/10/27/suomelta-miljardien-eurojen-pitiotuki-pankeille/201240446/12



GRAPH 30: LIMITING THE DOWNSIDE – I.E. POTENTIAL LOSSES – MAKES HIGHER RISKS (INCL. HIGHER LEVERAGE) RELATIVELY MORE PROFITABLE.

also consider e.g. companies maintaining significant infrastructure or central players in the energy sector "too big to fail" – or at least such companies have managed to create that image. Even car manufacturers – simply by being major employers in certain regions – have been playing this "too big to fail" card successfully to receive government subsidies and bailouts in many countries. But what exactly is it that makes banks and other large corporations "too big to fail"?

Fundamentally, the cause is the volatility of the *real* economy resulting from self-reinforcing mechanisms: Any bigger shocks result in economic insecurity, which causes increased saving and reduced investment. And this reduced demand further increases unemployment and fear thereof, resulting in a chain reaction, which has the potential to cause mass credit defaults and hence possibly the whole financial sector to collapse.[1399]

If purchased labor were reduced more evenly from a number of employees, and therefore reduced demand for labor did not significantly lower the correlation between people's earnings and their willingness to spend and invest, the main mechanism causing chain reactions would be eliminated and any bank going bankrupt would only cause a temporary drop in total output and at most minor losses to the government ("taxpayers") through the deposit guarantee.

Another harmful factor is the current excessive size of the financial sector, which is the result of ever increasing amounts of total debt (both public and private), which is a result of excessive monetary saving.[1400] The possibility of negative real interest rates[1401] would keep it profitable to invest in real assets or spend more money or free time, instead of piling up savings as monetary asset. This would prevent the constant piling up of more and more debt and the relative expansion of the financial sector.

One might intuitively expect that lowered interest rates would further increase borrowing (as many mainstream economic theories assume so and the conventional wisdom is that the central bank's policy interest rate effects inflation through the quantity of money[1402]). But one should note that lending interest rates in private loans are also raised by risk premiums when the solvency of a borrower becomes questionable, while deposit interest rates do not rise with increased market risks. Recent monetary expansion is more due to government deficits and quantitative easing than due to increased private borrowing.[1403]

However, a third problem is that the more an individual bank overleverages itself, the bigger the potential losses to taxpayers from a bankruptcy, and therefore the bigger the threshold for the government to file it bankrupt. Even without the instability of the real economy and the implicit promise of a bailout, banks still have an incentive to overleverage themselves because checking account

1399 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.4 Private Credit Crises, Mass Defaults and Overleverage".

1400 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth", "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'" and "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

1401 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1402 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1403 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably" and "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

deposits – as cheap credit finance – allow making bigger profits on their equity. As Ben Bernanke explains it:

> "If creditors in good times believe that certain firms will not be allowed to fail, they will demand relatively little compensation for risk, thus weakening market discipline; in addition, creditors will not have much incentive to monitor the firms' risk-taking. As a result, as predicted by principal-agent theory, firms thought to be too big to fail tended to take on more risk, as they faced little pressure from investors and expected to receive assistance if their bets went bad."[1404]

So how do we make sure that overleveraged banks are filed bankrupt early enough?

Other companies are usually filed bankrupt by their creditors – often retail banks, investment banks or other large private or institutional investors – when the value of their assets drops too close to the value of their debts (i.e. the book value of their equity approaches zero[1405]) and the company is unable to raise more equity from its shareholders. The trouble with banks is that their credit finance is mostly deposits from retail customers, who have no resources to monitor the bank's financial position and the risks related to the bank's assets. The need for depositors to do so is currently eliminated by the government guaranteeing the bank deposits.

What's even worse, the guarantee keeps the cost of credit low for banks regardless of their solvency. According to the Modigliani-Miller theorem, the profitability a company (and hence the market value of its equity, its share price) should not notably depend on its capital structure (assuming equal taxation of interest payments and dividends and ignoring agency issues and bankruptcy costs). This is because both the costs of credit and the profit requirement for equity rise with higher leverage (debt-to-equity ratio).[1406] But this law does not apply to banks on the part of most of their credit – deposits. Hence, leveraging becomes very profitable for them (even without the implicit bailout promise in the case of bankruptcy, which also reduces the risks on equity, further increasing the temptation of overleverage).

And, on the other hand, a financial market without such a deposit insurance and without the central bank as "lender of last resort" would not work very well, as this would put banks under constant speculation. Rumors could be enough to cause a bank run, bankrupting even sound banks and causing unnecessary deposit losses due to fire sales of such banks' assets.[1407]

Depositors cannot be expected to have the resources to realistically monitor the solvency of their banks. In fact, if all deposits didn't have the same final guarantor, they would practically no longer be the same currency.[1408] However, the current, free deposit guarantee leaves bankruptcy risks on the government, without banks having to pay anything for the covering of these risks.

One solution – also suggested by the IMF staff discussion paper "The Too-Important-to-Fail Conundrum: Impossible to Ignore and Difficult to Resolve" (Ötker-Robe et al, 2011) – is that governmental agencies monitor the solvency of the Strategically Important Financial Institutions and sets firewalls to reduce their connectedness to less controlled institutions in order to reduce "off-balance-sheet risks". Another related suggestion for limiting harmful interconnectedness is the Volcker rule that bans "proprietary trading" – the bank making investments other than new loans (does not include acting as an intermediary in trading where the risks are carried by the bank's customer) – for retail banks.

Unfortunately, there is a lot of room for interpretation and bias in determining what level of solvency is suitable in each situation, as it depends significantly on the total risk profile of the bank's asset portfolio. Just setting a specific lower bound for all retail banks' debt-to-equity ratio encourages investing in more risky assets. In the mortgage market, it would lead to banks preferring to issue high-interest, risky loans, as safer loans that have solid collateral could not be leveraged with a lower equity ratio to achieve the same expected returns on equity – even when the latter would be a relatively less risky business model.

Even if more complex regulatory mechanisms – like the Basel accords I, II and III agreed upon by the members of the Basel Committee on Banking Supervision – and other "firewalls" somehow managed to prevent hiding leverage within investment products or other financial institutions ("off-balance-sheet risks"), the problem remains that there is no way that such public institutions can fairly assess the risks of individual investments. And if they could, then

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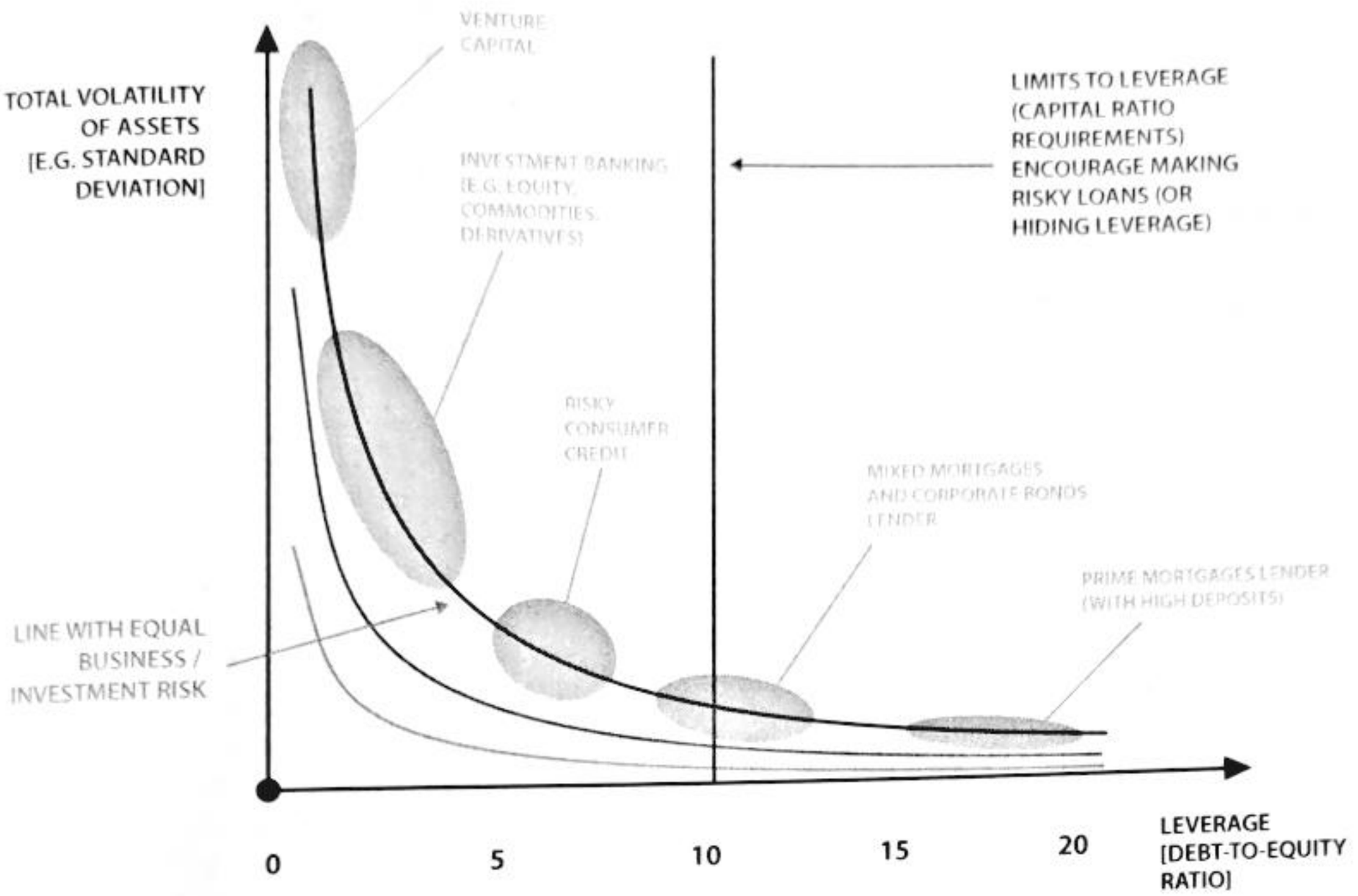
1404 Bernanke, Ben, "Implications of the Financial Crisis for Economics", Board of Governors of the Federal Reserve System, speech, 24th Sep 2010, cited 17.4.2014, http://www.federalreserve.gov/newsevents/speech/bernanke20100924a.htm

1405 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

1406 More on this in: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

1407 "In the historically familiar bank run during the era before deposit insurance, retail depositors who heard rumors about the health of their bank – whether true or untrue – would line up to withdraw their funds. If the run continued, then, absent intervention by the central bank or some other provider of liquidity, the bank would run out of the cash necessary to pay off depositors and then fail as a result."
– Bernanke, Ben, "Implications of the Financial Crisis for Economics", Board of Governors of the Federal Reserve System, speech, 24th Sep 2010, cited 17.4.2014, http://www.federalreserve.gov/newsevents/speech/bernanke20100924a.htm

1408 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth" and "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".


TOTAL VOLATILITY OF ASSETS [E.G. STANDARD DEVIATION]
VENTURE CAPITAL
INVESTMENT BANKING (E.G. EQUITY, COMMODITIES, DERIVATIVES)
RISKY CONSUMER CREDIT
MIXED MORTGAGES AND CORPORATE BONDS LENDER
PRIME MORTGAGES LENDER (WITH HIGH DEPOSITS)
LIMITS TO LEVERAGE (CAPITAL RATIO REQUIREMENTS) ENCOURAGE MAKING RISKY LOANS (OR HIDING LEVERAGE)
LINE WITH EQUAL BUSINESS / INVESTMENT RISK
0
5
10
15
20
LEVERAGE [DEBT-TO-EQUITY RATIO]

GRAPH 31: THE EQUITY RISKS OF A BANK, FINANCIAL INSTITUTION OR FUND ARE DEPENDENT ON BOTH THE VOLATILITY OF THE HELD ASSETS (AND OTHER BUSINESS RISKS) AND CAPITAL RATIOS (I.E. LEVERAGE).

there would be no need for a private banking sector at all, as this risk assessment is its main business.[1409]

When controls become more specific and stricter, but the implicit government support in the form of a possible bailout persists, this makes avoiding the controls and cheating the system (with e.g. yet more sophisticated accounting tricks) the most lucrative source of competitive advantage against other banks. Kenneth Rogoff, Professor of Economics and Public Policy at Harvard University describes this as a "financial arms race" where banks spend significant sums to hire anyone who still understands the regulations in order to, firstly, manage to meet them, and then, secondly, circumvent them.

> "The problem, at least, is simple: As finance has become more complicated, regulators have tried to keep up by adopting ever more complicated rules. It is an arms race that underfunded government agencies have no chance to win.
>
> Even back in the 1990's, regulators would privately complain of the difficulty of retaining any staff capable of understanding the rapidly evolving derivatives market. Research assistants with one year of experience working on derivatives issues would get bid away by the private sector at salaries five times what the government could pay." ...
>
> "Legislative complexity is growing exponentially in parallel. In the United States, the Glass-Steagall Act of 1933 was just 37 pages and helped to produce financial stability for the greater part of seven decades. The recent Dodd-Frank Wall Street Reform and Consumer Protection Act is 848 pages, and requires regulatory agencies to produce several hundred additional documents giving even more detailed rules. Combined, the legislation appears on track to run 30,000 pages." [1410]
>
> The title of a blog post by the CED is quite descriptive of the current financial regulatory environment: "We're Not Really Sure What We're Doing, But At Least We're Doing Something."

1409 See: "1.2.7 Banks Need to Be Private Because Risk Has a Market Price".

1410 Rogoff, Kenneth, "Ending the Financial Arms Race", Project Syndicate web article, 6th Sep 2012, cited 15.1.2013, http://www.project-syndicate.org/commentary/ending-the-financial-arms-race-by-kenneth-rogoff

> "Despite lack of agreement, national and global regulators are taking steps, including higher capital ratios, that are intended to make the global financial system safer. In fact, there is no consensus among academics, regulators or bankers about the effects of such policies. But doing something seems better than leaving the pre-2008 policies in place."...
>
> "It seems there is enough doubt, uncertainty, and admitted ignorance among leading economists and economic policy makers to give new meaning to the term 'Dismal Science.'"[1411]

At this point, it might be useful to heed Russ Ackoff's words:

> "[W]hen you get rid of something you don't want, you don't necessarily get what you do want."[1412]

There would be a much more efficient way to ensure bank solvency utilizing the market's control mechanisms. As FED Chairman Ben Bernanke says:

> "One response to excessive risk-taking is stronger oversight by regulators..." ... "However, the problem of too-big-to-fail can only be eliminated when market participants believe authorities' statements that they will not intervene to prevent failures. If creditors believe that the government will not rescue firms when their bets go bad, then creditors will have more-appropriate incentives to price, monitor, and limit the risk-taking of the firms to which they lend. The best way to achieve such credibility is to create institutional arrangements under which a failure can be allowed to occur without widespread collateral damage; if failures can take place more safely, the authorities will no longer have an incentive to try to avoid them."[1413]

But removing bailout expectations of banks is not enough, as the deposit guarantee (bailout of the banks' creditors) still makes it possible – and profitable – to impose risks on taxpayers through overleverage. What would be needed to protect deposits is that banks hold a sufficient buffer of risk-carrying credit. And the simplest and fairest way to encourage having such a buffer would be to put a price on the government guarantee of deposits!

Almost any free, full insurance comes with an incentive to impose costs on such an insurance – especially so in the financial market where the whole game is to minimize the costs of risks. In non-free insurances, if insurance costs are reduced when less risk is taken, there is an incentive to reduce risks. Unfortunately, making banks pay insurance costs according to their (auditor-assessed) risk profile would leave the same problem as with the Basels and other regulation initiatives: A public institution cannot assess risks fairly and it would be very costly to do so.

But regardless of what the insurance costs, people still need some liquidity to conduct their transactions. So a simple solution would be to set a fixed-rate, annual deposit guarantee fee of e.g. 3-5% and **require that banks be able to raise risk-bearing credit (not guaranteed by the government) from the private market at risk premiums lower than this rate.** If a bank were unable to do so or if the risk premiums of the yields of its currently outstanding bonds were to drop below the insurance fee rate, it would clearly not be solvent and/or transparent enough and it would be filed bankrupt by the government (which is the *de facto* risk-bearing creditor on behalf of depositors). The bank's assets and remaining liabilities would be taken over by the government and eventually auctioned off to other financial institutions. To avoid the bankruptcy, the bank would need to gather enough additional equity (by e.g. issuing new shares) within a set time frame to reduce the premiums on its bonds sufficiently. If it were to succeed, it would get away with paying the extra insurance costs on all its deposits to match the risk premiums as well as a hefty fine for its solvency breach.

Not only would this set a clear and fair limit to the bank's leverage, but it would make it profitable for banks to remain solvent also beyond this limit, as more solvent banks would get cheaper credit finance. Any saver could avoid this "deposit tax" by instead investing in the bank's corporate bonds, and so, for example with a 4 % deposit insurance fee, a bank with a corporate bond premium of 1,5 % could make 2,5 percentage points higher margins on the loans it makes than a bank that is leveraged "to the limit".

If you were afraid that the possibility of yet lower interest rates would rather lead to further expansion of the financial sector (even with rising risk premiums on made loans[1414]), this deposit guarantee fee would finally make it relatively less profitable to save monetarily (hold credit) while keeping borrowing (being in debt) relatively pricey.[1415] More on this deposit guarantee system under "4.2.2 Setting a Fee on the Government Deposit

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1411 "We're Not Really Sure What We're Doing, But At Least We're Doing Something", blog post, Committee for Economic Development, Fiscal Health, 3rd Jun 2013, cited 14.6.2013, http://www.ced.org/blog/entry/were-not-really-sure-what-were-doing-but-at-least-were-doing-something

1412 See: "2.1 Normative Principles – What Do We Want from an Economic System?"

1413 Bernanke, Ben, "Implications of the Financial Crisis for Economics", Board of Governors of the Federal Reserve System, speech, 24th Sep 2010, cited 17.4.2014, http://www.federalreserve.gov/newsevents/speech/bernanke20100924a.htm

1414 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1415 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

Guarantee" and on how it would be a competitive option under "3.5.3 The Advantage of the Possibility of Negative Interest Rates"

In this way, the interconnectedness of financial institutions, which now makes them even more "too big to fail", could be turned into an internal self-regulation mechanism ensuring that risks are always on shareholders or other risk investors. The fee on the deposit guarantee would encourage banks to be both solvent and transparent while fully allowing innovations in risk management and creating investment products – instead of encouraging hiding risks, like the current regulations do. There would be no other need to control banks, except to prevent fraud, such as misleading accounting and shareholder reporting.

Even if we didn't make negative real interest rates possible and hence facilitate this deposit insurance fee, it would be much more fair in terms of competition to implement financial regulation by requiring banks to hold a protective risk-carrying credit buffers of a certain size with limited interest yield, or making them pay for private deposit insurances from other financial institutions, than to try to control how banks conduct their primary business – risk management – which makes avoiding this control and cheating the system the most lucrative sources of competitive advantage.

What about the broadly demonized speculation with more and more complex financial derivatives? Should these be regulated or banned? As long as financial institutions are required to carry their own risks and as long as excess leverage (especially by government-guaranteed credit) is discouraged with the deposit guarantee fee, there should be no need to do so. Derivatives are actually very useful for many situations – even for regular consumers if they just understood what they are really about.[1416]

1416 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments", "3.3.2 Famines and Overpopulation", "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral" and "4.3.3 Other Natural Resources, Renewable or Non-Vital".

3.1.6 Sovereign Debt Crises

In short:

- *If a government has fiscal trouble, it is important to distinguish whether the whole national economy is becoming net indebted or whether it is merely the government issuing more debt to its citizens.*

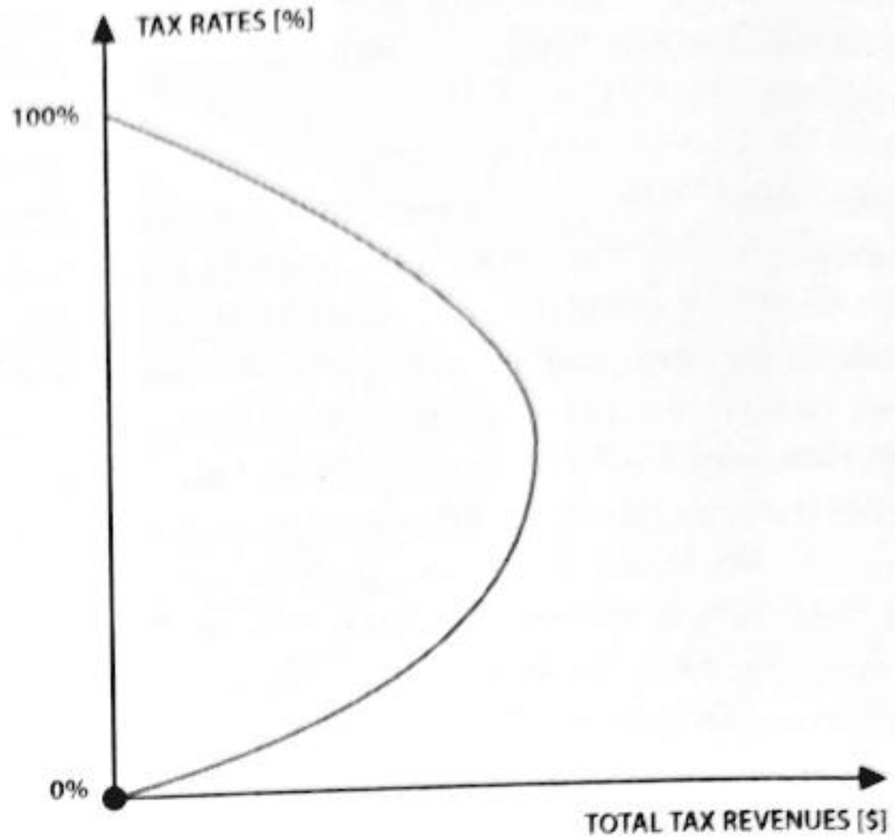
What about the constantly increasing amounts of government debts? Here we have to split the problem into two separate kinds of cases: (1) The constantly growing sovereign debts of governments in net creditor economies with a history of positive current account balances, such as Japan, Germany and Finland, and, on the other hand, (2) the more severe cases of sustained trade imbalances causing the whole national economy of a country to fall further into debt – most notably the situation of Greece and other South European countries in the past few years. The case of how these trade imbalances are keeping developing countries poor and chronically indebted is discussed in "3.3 Global Social Issues". The case of the United States is a special kind of combination of both of these supported by a third issue – the status of the U.S. dollar as the de facto foreign reserve currency.

3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources

In short:

- *Currently, nations are dependent on economic growth to balance their government's budgets mainly because income taxes, value-added taxes, corporate taxes and other taxes on transactions are a major source of revenue. Hence, raising such taxes tends to reduce the amount of transactions (economic activity) and eventually reduce tax revenues.*
- *Even if governments could collect in enough taxes, they currently have to go further into debt in order to facilitate excessive private sector saving while keeping the economy running.*

- *Land taxation, similar taxes on patents, auctioning use quotas for natural resources, charging for government deposit guarantees and profits from publicly owned monopoly industries would provide a much more trend-independent base for financing the public sector with less bureaucracy, tax evasion and discouragement of economic activity. Facilitating negative interest rates could prevent excessive private sector saving, removing the need for prolonged fiscal stimuli.*



GRAPH 32: THE LAFFER CURVE.

> "Likewise, government deficits are particularly concave to changes in economic conditions. Every additional deviation in, say, the unemployment rate – particularly when the government has debt – makes deficits incrementally worse." – Nassim Nicholas Taleb, Antifragile (2012, p. 292)

As explained in "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably", the idea of Keynesian fiscal stimuli is to maintain a stable growth of aggregate demand by adjusting government expenditure and investments when private spending and investing decreases. This does not result in a long-term increase in sovereign debt if private spending picks up again and then allows collecting higher tax revenues or decreasing government expenditure later to shorten these debts. This can be expected to occur if the only cause of reduced total demand is economic insecurity or e.g. a temporary drop in exports.

However, if there are other reasons to save[1417] (such as people simply preferring more free time in the future – an earlier retirement – or guilt resulting from the increasing demonization of "consumption"[1418]), there is no guarantee that private spending will increase again. As Keynes himself pointed out, there is no point in investing unless spending can be expected to increase in the future (Keynes 1936, p. 71). This problem can keep on escalating for a long time, as it has e.g. for two decades in Japan. Persistent private saving causes the government debt to grow and grow despite positive current account balances, which are also indebting other national economies further and further.[1419] For this problem to be solved, private saving would have to become less profitable – negative real interest rates would be needed.[1420] But how can we reduce the amount of government debt sustainably and avoid the constant increases in government debt from eventually resulting in hyperinflation,[1421] guarantee government income regardless of trends as well as prevent higher taxation from hampering economic activity?

At the core of the challenge is that government revenues are largely based on transaction taxes.

- **Value Added Taxes,** VAT (or e.g. Goods and Services Tax, GST in Australia) taxes consumption.
- **Income taxes** and payroll taxes tax work.
- **Corporate taxes** and **capital income taxes** tax capital income, i.e. the profits from investments.

If the economy does not grow, tax revenues can only be increased by raising tax percentages, and this has the tendency to further slow down growth – which reduces tax revenues. The Laffer curve, showing total tax revenues as function of tax rates, demonstrates that every amount of total government income can be achieved with two different tax percentages, one with a lower tax rate and more economic activity and one with a higher tax rate and less activity (and likely more grey economy activity).

The Laffer curve model suggests that there is an optimal tax rate that yields the most revenues for the government in any given situation. The idea is that a 100 % tax rate

1417 See: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".
1418 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units" and this book's sister, "The Guilt Economy".
1419 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Sticky Trade Imbalances".
1420 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1421 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

would surely halt all economic transactions conducted with money and a 0 % tax rate would provide no tax revenues at all (from transactions). Although some estimates of the tax rate yielding maximal revenues have been made, the "Laffer curve" is not a complete theory of government revenues, but rather a rough and hypothetical demonstration of the idea that transaction taxes hamper economic activity. The "supply-side approach" to economics – popular mostly among the Republicans in the U.S. during the 70s and 80s – is especially fond of using the Laffer Curve argument for tax rate cuts.

But let's ask, what sense does taxing transactions make in the first place when the government seems to want more transactions (i.e. economic growth)? Could we reduce transaction taxes by taxing something else? What else could we tax? Especially, as taxing an activity tends to cause a decrease in that activity, could we find something that could not be reduced – or that has a low price elasticity of demand or supply?

We could think about taxation in general as charging a lease or service fee on something, and normally you can only charge a lease fee on something you own and fees on services that you provide. So taxing work is like the government saying that it owns our work, which is quite a ridiculous idea. If it did, it should also be able to force us to work.[1422] But what could the government claim to own at least partly? Or does it perhaps currently provide for free things that would better not be free?

Firstly, the government currently has a monopoly on the monetary systems, which has its benefits (and which, unlike many libertarians like to insist, isn't only enforced by a threat of violence).[1423] The current credit money system – the unit of account (euros, dollars etc.) that credit contracts can be tied to, the central clearing system provided by the central bank and the public deposit guarantee – can be regarded as a service that the government provides for its citizens. Taxing transactions made with money could also be seen as charging rent for the monetary system, but instead of taxing its wanted use – trade – we could tax its misuse – hoarding it!

An individual derives value from money both by holding it (holding credit) and by using it for transactions. However, holding money – risk-free deposits or cash – has little benefits for society[1424] and is practically only keeping others in debt and slowing down the velocity of money.[1425] Using money for transactions, on the other hand has vast positive externalities for the whole society.

It would therefore make much more sense to tax holding money instead of using it for transactions – especially when the government provides the insurance on these deposits and the government's risks keep on rising as the amount of savings (credit) and debt grows.[1426] Currently, we are doing the exact opposite.

1422 If the state subsidizes education, it could lay a claim on part of the competence capital of its citizens. However, such competence capital can be just as well used to create value without involving any monetary transactions (e.g. voluntary work or building a house for oneself). Whether a monetary transaction is involved is in any case a pointless discrimination criterion for the taxation of such (or actually any) capital income (for the case example of apartment rents, see: "4.3.1.6 Case: Helsinki Metropolitan Region"). Also a more important value ("capital") of academic degrees (which e.g. the Nordic countries subsidize), than the actual competence they provide, is the privileged right they grant to participate in certain labor markets. And this "planned labor market" (with set starting positions, see: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'") and the de facto academic monopoly of higher education in general is definitely something that should be eliminated, or at least its compatibility with a market economy questioned. See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

1423 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'", "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral" and "2.2.2.2 The Inefficiency of Competing Currencies"

1424 And no, banks do not "lend on" saved money (see: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'") and there should be limits to how much they can leverage direct investments with deposit finance (see: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking").

1425 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

1426 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit").

Sidenote Box 3161A: Who Provides the Money? The Units, the Contracts and the Transactions

Taxing *holding* money instead of the transactions makes a lot of sense when we realize that the value of money to its user is mainly not in the transactions themselves but the *potential* it grants the holder: (1) its ability to "store" purchasing power (risk-free) for the future, and (2) its liquidity, i.e. that the holder is free to use this purchasing power whenever she pleases. Many economists from many different schools agree with this value of held money – including William Hutt, Ludwig von Mises and John Maynard Keynes:

> *"If the work of money is circulation, then money is always "idle" because transactions are quasi-instantaneous. ... The transfer [of money] itself occupies a mere moment whilst the services which flow from the possession of money are continuous over time. The essence of all these services is availability."* (Hutt 1975)

> *"It must be recognized that from the economic point of view there is no such thing as money being idle." ... "In fact, since money that is surrendered in an exchange is immediately transferred from the ownership of the one party to that of the other, and no period of time can be discovered in which it is actually in movement, all money must be regarded as at rest in the cash reserve of some individual or other. ... What is called storing money is a way of using wealth."* (Mises 1912, p. 147)

> *"One reason for holding cash, ... is to bridge the interval between the receipt of income and its disbursement."* (Keynes 1936, p. 195)[1427]

Alfred Mitchell-Innes's Credit Theory of Money is still one of the best explanations of this "holding value" of money as credit – receivables.[1428] Differing from other credit, the liquidity of money (practically giving it "zero maturity" for an individual holder) gives it "option value" (Gruen et al 1997, p. 3) – "availability", as Hutt called it in the quote above."

Nowadays, as the use of cash wanes, transaction services are in practice mostly provided by banks, credit card companies and online service providers like PayPal, while the currency unit provided by the government is still a prerequisite for the existence of both cash and bank deposits in their current form. Especially, the guarantee of stable inflation and the government guarantee of deposits are what makes cash and bank account deposits risk-free assets. And the ability to avoid risks by holding these deposits is clearly a service that can, and should, have a price.

1427 ...although it is easy to interpret both of them to recognize money only as a "medium of exchange having no value outside of these: "Money is nothing but a medium of exchange and it completely fulfills its function when the exchange of goods and services is carried on more easily with its help than would be possible by means of barter." (Mises 1912, p. 21)
"...but for money to have use-value, the existence of exchange-value is essential. This peculiarity of the value of money can also be expressed by saying that, as far as the individual is concerned, money has no use-value at all, but only subjective exchange-value." (Mises 1912, p. 97)
"...the peculiarity of money that its utility is solely derived form its exchange-value..."(Keynes 1936, p. 231)

1428 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

Secondly, the government can own – and should own – companies in natural monopoly industries, where free competition does not work efficiently. There are many services that make sense to be provided publicly – but that don't make sense to be paid or even subsidized by the government. This includes basic infrastructure like the power grid, water and central heating pipelines, the highway network, rail network and so on.[1429]

Ownership of monopoly industries – to prevent abuse of these positions by profit-seeking individuals and interest

1429 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

groups – could be a primary function of government. As Henry George wrote:

> "There is in reality no conflict between labor and capital; the true conflict is between labor and monopoly... Abolish the monopoly that forbids men to employ themselves and capital could not possibly oppress labor..." (George 1949, p. 277)

A democratic government[1430] – like a housing condominium – is practically a vessel for common ownership. And as this function produces value where properly applied, it is also a very efficient and fair source of income (compared to transaction taxation). Instead, if government-owned companies operate in markets where there is also free competition, this significantly distorts fair competition and politicizes profit potentials.

Most natural monopolies can be traced back to the fundamental imperfections of a free market.[1431] Most of them are strongly location-dependent (limitedness of land) or related to the monetary, judicial or legal systems, which within a country are monopoly systems.[1432]

Thirdly, the government practically owns all land. Even though we have "private land ownership" in many countries, the land isn't ever fully yours. You cannot decide what laws are obeyed on the land and even what you can build on it is limited by zoning and construction permits[1433]. What you own is just a right to use the land – and (currently a major) part of its income. And land is a limited vital resource, dependent on location and thus always has a form of local monopoly. It therefore makes sense that part of the rights to the income from it should be included in governmental "common ownership".[1434]

Fourthly, the government should own other limited natural resources to prevent their harmfully excessive exploitation (Tragedy of the Commons) or hoarding them up to "blackmail" others. This includes fish and game populations, fossil fuels and mineral ore reserves.[1435]

Thus we present here, for scrutiny and inspiration, a new kind of competitive and fair taxation model based on the following:

- An "inflation tax": When negative real interest rates are made possible, this would turn government debt from an expense to an income source. When interest rates are negative, the government earns negative real interest on its debts.[1436]
- A fee on the government deposit guarantee,[1437] which, in addition to providing direct public income (and encouraging banks to remain solvent and transparent[1438]), further decreases the yields on government bonds, increasing the public "inflation tax" revenues and lowering interest costs when market rates are higher.
- A land value tax (LVT) of at least 10 %.[1439]
- A similar tax on patents (legal technology monopolies) according to (owner-determined) market value.[1440]
- Collecting use or connection fees for infrastructure owned by the government or government-owned monopoly industries. This includes e.g. highways, railroads as well as the power and water grids.[1441] Local infrastructure (e.g. roads within municipalities) and recreational areas (e.g. parks) are harder to charge for according to use, but as these raise the location value of surrounding real estate, the tax on land according to market value effectively also "charges" the locals for the availability of these local service.
- Pigovian taxes on fossil fuels and other environmental externality costs as well as auctioning out use quotas (called Coasian Bargaining) for other limited resources, such as hunting and fishing rights.[1442] However, the Pigovian taxes on fossil fuels are not a very sustainable source of income, as the purpose of these taxes should be to tax the fossil fuels out of use completely. If we base public budgets on carbon taxes, we end up, again, with the Laffer-curve-like problem: After a point, the government will not want to raise taxes for fear of losing carbon tax revenues. Instead, the prices of the limited, sustainable use quotas for other resources (e.g. fish populations and minerals) can be expected rise in the future forming an increasing share of government revenues.

1430 For challenges with common ownership and democracy, see: "1.1.7 Ownership as a Bundle of Rights" and "6.3.2 Appendix 3.2: The Challenges with Democracy").
1431 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".
1432 For the case of competing monetary systems, see: "2.2.2.2 The Inefficiency of Competing Currencies".
1433 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".
1434 See: "1.1.7 Ownership as a Bundle of Rights" and "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
1435 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land", "3.4 Environmental Sustainability" and "4.3.3 Other Natural Resources, Renewable or Non-Vital".
1436 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".
1437 See: "4.2.2 Setting a Fee on the Government Deposit".
1438 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".
1439 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
1440 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".
1441 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".
1442 See: "3.4.1 Global Warming and Dependence on Fossil Fuels" and "4.3.3 Other Natural Resources, Renewable or Non-Vital".

- Focusing transaction taxes on making sharing work profitable for employees. This can also be seen as a Pigovian tax on the harmful externality effects that piling up work on fewer people has on the economy and the welfare of the society, compensating for the efficiency advantage that it gives to an individual company.[1443]

The reduced need for social support and other transfer payments due to the elimination of most kinds of unemployment[1444] would also decrease government expenditures and hence the total need for taxation. Another big reduction in government expenses would come from simplified bureaucracy and other increases in public sector productivity – as the government would no longer have an implicit responsibility to "provide stable employment"[1445] – and eliminating the need for most of the policies and institutions now created and implemented just to stimulate growth and "job creation".[1446]

If these cost reductions and increases in non-transaction tax revenues result in a government surplus, this surplus could be redistributed as a "citizen's dividend" or "basic income" (the financing of which with a steeper progression of transaction taxes would likely be a bad idea[1447]). If not, the budget can be balanced with e.g. the profit targets of public monopoly industries or the Value Added Tax (VAT, or Goods and Services Tax, GST, as it is called in Australia), the *changes* in which have less harmful and unfair effects on the economy than e.g. unpredictable adjustments of other taxes, such as the land value tax.[1448] When there is no need to keep the economy growing by any means possible, transaction taxes do less damage as well.[1449]

A more detailed initial suggestion for such an efficient, low-bureaucracy, competitive and fair tax structure is presented in "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".

1443 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".
1444 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.3 Structural Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
1445 See: "3.1.8 Public Sector Inefficiency".
1446 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?".
1447 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".
1448 See: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".
1449 Such taxation possibilities of course make it possible for left-wing parties and other interest group institutions to abuse the situation for excessive, efficiency and welfare decreasing, redistribution of income. Such a "political threat" is what, perversely, gives right-wing parties (even pro-market ones, not just pro-business, see: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide – 'Pro-Business' Is Not 'Pro-Market'") an incentive to prevent the implementation of taxes (e.g. the ones previously listed) that might actually be *good* for the economy, so that they can use the "Laffer curve arguments" to justify lower total taxation – a bit like Greenpeace has the incentive to sabotage nuclear power plants and plant construction sites in order to obtain evidence that they "were right" about nuclear power being unsafe. Such incentive traps in democracy and any institutions that have been created to fight an enemy or treat a problem are discussed in more detail in "6.3.2 Appendix 3.2: The Challenges with Democracy" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".

Sidenote Box 3161B: Tax Avoidance and the Tax Haven Problem

The image of rich people and especially criminal mobs keeping their possession in the Bahamas, the Cayman Islands or anonymous Swiss bank accounts is not a new one. Also, recent publications and inquiries have pointed out how almost all multinational corporations use complex financing structures to "optimize their taxation" and gain "tax neutrality". A large part of the business of the accounting and legal service industries is in making such arrangements.[1450] [1451]

The problem of tax avoidance is often considered unavoidable, as any country tightening control or raising taxes would only be losing business and investment and whatever remains of tax revenues, as companies and investments would flee overseas. But many of these tax avoidance loopholes could be avoided by simplifying the taxation system and removing all exceptions on exemptions. The trouble is mainly that democratic states have largely become mechanisms by which every interest group tries to steal from others – and this they do best by maintaining the tax loopholes that they themselves like to use while trying to make others pay more

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1450 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".
1451 16:06->, 2013, "The Tax Free Tour", documentary, VPRO International, viewed 22.11.2013, http://www.youtube.com/watch?v=d4e13isDdfY

Continued on page 301 ►

taxes.[1452] The best income transfer, by the logic of this system, is one where the one who is transferred from does not know he is losing anything.[1453] And although some of such transfer cases are rather simple,[1454] the more complex the taxation system, the better possibilities there are to implement such income transfers.

And the most common excuses for all of these exemptions, loopholes and other complexities are – once again – job creation, economic growth and national competitiveness.[1455] Simultaneously, this increasing complexity itself together with growing government agencies trying to weed out the perpetrators also serves as a big employment machine for government officials, lawyers and accountants – a source of waste.

In addition to complexities that countries have created by themselves, international contracts like free trade agreements and EU directives often ban the forms of taxation that might allow filling loopholes. Such taxation forms includes for example a "source tax" on all kinds capital income (dividends and interest) paid out of companies, which would always be paid to the country of operations. This would prevent e.g. the practice (common e.g. in Finland) of paying profits out of a country with high corporate and capital income taxes as interest on a loan from a parent company based in a country with low taxes on interest revenues.

However, such source taxing is not a cure-all solution either. It would still allow avoiding taxes by operating at zero profit in some countries by paying other subsidiaries or departments of the company (or another company owned by the same investors) operating in another country higher prices for goods and services (such as consulting) traded between them. This is known as *"transfer pricing"*.[1456] [1457] This still allows for tax competition between countries without operations needing to be moved. But of course, capital income from other countries can be taxed at the same rate as the source tax on domestic capital income, making it significantly harder for local investors to avoid taxation without moving abroad themselves. The problem then is that if every country implemented both the source tax and the foreign capital income tax, there would be double taxation on foreign investments.

It is possible that the only way to make capital income taxation and corporate taxation "unavoidable", is some kind of "tax cartel" between countries – them deciding together to refrain from tax competition and to harmonize practices somehow. And this could be possible without the need for the economy war between nations trying to indebt each other by any means.[1458] Interest group politics is harder to get rid off under democracy, but invalidating the "job creation argument" would make tax exemptions and other complexities harder to justify.

In general, the interchangeability of forms of income that can be received from a company (interest, dividends, service payments, wages etc.) emphasize the fact that corporate taxes, capital income taxes and other "transaction taxes" are not very efficient forms of taxation. Taxing land and putting prices on government-provided services (including the removal of unnecessary subsidies), would be a much more efficient way to generate public revenue. Land cannot be moved abroad and a fee on the government guarantee of deposits (if implemented within a whole currency region or by countries with their own currencies) would not kill the local banking sector (as long as the central bank makes the payment of the deposit insurance fees a

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1452 See: "3.1.8 Public Sector Inefficiency" and" 6.3.2 Appendix 3.2: The Challenges with Democracy".
1453 Public housing support and limited starting places in higher education are some of the best examples of such income transfers. See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'" and "4.3.1.6 Case: Helsinki Metropolitan Region".
1454 E.g. people see accommodation support as a transfer to low-income people who are paid the support, failing to see that it is in effect an even bigger transfer of income from other rent-payers to real estate owners (see: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?") and fail to see how the free deposit guarantee raises the returns on all capital investments (see: "4.2.2 Setting a Fee on the Government Deposit Guarantee").
1455 See: "3.1.2 Other Scapegoats for the Mystical Growth Dependence", "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further", "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and "6.2.5 Appendix 2.5: The Tyranny of Jobs".
1456 "Transfer price", definition, Investopedia, cited 22.11.2013, http://www.investopedia.com/terms/t/transferprice.asp
1457 Theoretically you could try to make this less profitable by making internal and B2B transactions across national borders subject VAT, just like consumer products, but this would unnecessarily discourage international B2B trade and specialization.
1458 See: "3.3.1 Solving Poverty for Good – Ending the Economy War" and "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

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prerequisite for a bank to have an account at the central bank), but would rather devalue the local currency. The lowered relative labor costs would increase the regions' competitiveness over productive, risk-bearing capital. Tax haven banks cannot store credit denominated in euros or dollars without matching debt, unless this credit is mediated to the bank through central bank money or cash, as explained in more detail in "3.5.3 The Advantage of the Possibility of Negative Interest Rates".

The political left tends to intuitively object to any reductions in corporate taxes and capital income taxes, but here two things need to be understood. Firstly, if the biggest companies evade the taxes in any case, raising the "taxes on capital" is nothing more than a "moral" victory for a party – often with very counterproductive effects (mainly only small-scale entrepreneurs paying more taxes). Secondly, corporate taxation and capital income taxation do not lower the yields of capital investments in the long run in competitive markets, as the profit requirements of an investment are determined according to the yield of the risk-free investment alternative and the investment's risk premium.[1459] In industries with fair competitions, raising taxes on capital income will cause the pre-tax profit requirements to rise, raising product prices and/or lowering wages until the post-tax profits are at the same level on average as they were before. If wages are strictly controlled in an industry with tight international price competition, tightening taxes on capital income or raising wages will only cause those operations to cease – and possibly the whole industry to die locally (which is close to what has been happening with the Finnish paper industry recently, as a result of unions not allowing wages to adjust to meet increased international competition). As Milton Friedman says, companies themselves do not "pay taxes" – regardless of who makes the actual transfer to the tax officials – but the costs always fall on either employees, customers or shareholders.

> *"Can you tax business? What's business? There is no business to be taxed! There are people. Only people can pay taxes." ... "So when you talk about a tax on business, it has to be paid by somebody! Either it's paid by the stockholder, or it's paid by the customer or it's paid by the worker!"*[1460]

The only way to lower the profits capital makes in the long run is to eliminate monopolies and lower the yield of the risk-free investment option, i.e. cash, deposits and bonds.[1461] Therefore, if we want to tax business more with transaction taxes, it could almost as well be done through e.g. VAT, which is harder to circumvent than corporate taxes, as profits are easier to hide with accounting tricks than revenues are.

The simple taxation model presented in "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model" provides also a good basis for mitigating the tax haven phenomenon.

1459 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1460 36:08->, Friedman, Milton, "Myths that Conceal Reality", presentation, viewed 2.12.2012, http://www.youtube.com/watch?v=zNtKk2E-ml-o

1461 "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

3.1.6.2 Sticky Trade Imbalances

In short:

- *More efficient taxation models don't help much if the whole national economy is becoming net indebted, which results usually from low price competitiveness keeping the economy's current account balance negative.*
- *Such trade imbalances would be automatically fixed by adjustments in currency exchange rates or, alternatively, in wage levels in an open supply and demand market. When wages and exchange rates are controlled and other protectionist measures are in place, trade imbalances persist.*

So what about situations like Greece and other Mediterranean eurozone countries in deep financial trouble? Many of these cases are not only about government debt, but the whole national economy becoming indebted as a result of cumulating current account deficits.

If there is someone to blame for this, it is undoubtably the corrupt government on the public side and labor unions on the "private" side. E.g. the Greek government has spent recklessly in the past decades, but if this had meant simply not taxing enough to cover the costs of public services and investments, the problem could be fixed simply by cutting costs. Instead, a lot of the spending involved – or resulted in – raising wages, which also dragged up private sector wages.[1462] The increased costs of labor decreased the competitiveness of the whole national economy, causing massive current account deficits net indebting the whole nation. When the whole economy is indebted, there is not much the government can tax from.

Though Greece can be blamed, we have to remember that even if we managed to change the behavior of the heavily indebted Mediterranean countries, it is not possible for their national economies to get out of debt if Germany and other countries insist on maintaining a current account surplus.[1463] The whole eurozone in net could theoretically maintain a surplus (by e.g. keeping the currency artificially devalued), but this would then mean constantly indebting other nations, which isn't sustainable on the global level.

As Greece has a common currency – the euro – with other countries, the Greek government cannot "inflation tax"[1464] itself out of the debt either, because increasing labor costs resulting from rising wages would just further decrease the competitiveness of the national economy. If Greece had its own sovereign currency, the devaluation of that currency resulting from high public debt and low profitability of local export industries would have prevented real wages from rising too high in the first place.

On the other hand, even under a common currency, if wages would not be controlled in anyway (and if the public sector did not sustain immense budget deficits to maintain local demand), supply and demand would keep them at competitive rates. If available working opportunities were always shared,[1465] wages could only rise when the demand for labor starts exceeding the citizens' willingness to earn. When they would be eager to earn and spend more, they would have to compete for the additional work with lower relative wages and the region's competitiveness would be restored. A higher inflation rate for the overall currency area would also allow real wages to balance themselves out without it resulting in excessive price deflation (and hence a positive real interest rate) that would encourage local saving excessively.[1466]

Thus, without the Root Bug, the crisis would not have emerged at all or would've been easy to resolve early on. It would still have been possible for the Greek government to spend irresponsibly, but when the credit taps would've started tightening, the government would've had to start saving on costs – and doing so by reducing the *amount* of work from its own employees, instead of firing individuals. Supply and demand would've kept wages low both in the private and the public sector.

In the current system, where savings are achieved by *firing* government employees while the rest of the population retain their relatively (and uncompetitively) high wages, these measures only do more damage to the national economy without increasing its competitiveness nearly enough. They thereby decrease the government's ability to pay off its debts. Even with weakened union control, natural wage stickiness would make it extremely difficult to drop wages fast enough by 30 %, which according to some economists[1467] would have been needed from 2012

1462 Stakianakis, John, "The Cost of Protecting Greece's Public Sector", New York Times, 10th Oct 2012, cited 22.3.2013, http://www.nytimes.com/2012/10/11/opinion/the-cost-of-protecting-greeces-public-sector.html

1463 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

1464 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".

1465 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

1466 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities".

1467 Niemeläinen, Johannes, "Tämä virus ei säästä euroa", Taloussanomat, 24th May 2013, cited 1.10.2013, http://www.taloussanomat.

levels to restore Spain's and Italy's price competitiveness to Germany's level. And even if it were possible, there is the deflation problem: The lowering wages and prices together would increase the local purchasing power of credit – raising the real interest rates – making saving yet more profitable and putting those in debt into yet deeper trouble.

However, a higher inflation rate would also ease such adjustment.[1468] If the European Central Bank were to adopt e.g. a 6 % inflation target, which would likely (depending on productivity development) result in a more than 6 % annual rise in nominal wages in the rest of the eurozone, and the South European countries were to refrain from wage increases, their relative competitiveness could be restored in 4-5 years without needing to drop average nominal wages. When foreign imports slowly become more expensive, domestic alternatives become relatively more affordable and also export industries start to flourish.

Currently, however, Greece might have long ago passed beyond the point where credit losses are inevitable. For more on this brutal economy war between nations and how it is sustained by our economies' dependence on economic growth, see: "3.3.1 Solving Poverty for Good – Ending the Economy War".

fi/kansantalous/2012/05/24/tama-virus-ei-saasta-euroa-pakko-valita/201229800/12

1468 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities".

3.1.6.3 The U.S. Case – Chronic Overvaluation of the Global Reserve Currency

In short:

- *The chronic current account deficits of the United States are also influenced by the status of the U.S. dollar as the international reserve currency, which keeps the dollar overvalued against other currencies and hampers the price competitiveness of U.S. producers.*

The United States and its soaring national debt is an interesting crossbreed between the two previously described cases. The U.S. has been running significant current account deficits for decades. These deficits occurred largely as accumulation of private debt until the 2008 credit crisis at which point the public sector (the government, states and cities with e.g. Detroit and many Californian municipalities going bankrupt[1469]) took on the role of borrowing. Of course, the massive private debts in the U.S. are not only the result of trade deficits: There are also significant quantities of capital of private investors and large funds parked as deposits and bonds, as there are few productive real investment opportunities available.

But trade deficits persist as well. The United States – unlike Greece – has its own currency and the FED is not selling significant amounts of foreign assets to keep the U.S. currency overvalued. What prevents the dollar exchange rate from dropping to balance U.S. foreign trade?

Under the Bretton-Woods system, all major currencies were practically pegged to gold via the U.S. dollar. When the gold standard was abandoned (the "Nixon shock"), the United States dollar practically became the *de facto* main reserve currency held by the central banks globally to settle international transactions. Due to universal trust in the stability of the dollar, citizens of countries with unstable economic situations have sometimes also adopted the dollar for use in parallel with their domestic currency. As a result, the parallel or alternative use of any foreign currency has come to be known as "dollarization".[1470]

This resulting global liquidity of the U.S. dollar keeps the demand for dollars (i.e. dollar-denominated financial assets) higher than "normal". The foreign demand for a currency is usually determined mostly (assuming no active central bank interventions) by the produced

1469 Greenhut, Steven, "California Goes Bankrupt", Reason.com, 20th Jul 2012, cited 21.7.2013, http://reason.com/archives/2012/07/20/california-goes-bankrupt

1470 "Dollarization", entry, Investopedia, cited 21.7.2013, http://www.investopedia.com/terms/d/dollarization.asp

goods and services available for import from that country. (Chang 2010, p. 105)[1471] This is why for example the currencies of oil producing countries (e.g. Norway, Brazil, Saudi-Arabia) tend to be valued relatively highly: Holding financial assets in these currencies can be seen as claims to oil produced in the future. The fact that this overvaluation tends to lower the competitiveness of other industries in the economy is one common explanation – together with e.g. the high volatility of the prices of commodity resources – for "the resource curse" or the "Paradox of Plenty" of how abundant natural resources can be harmful for a nations' economic development.

Now the U.S. practically *"exports" global liquidity*, as many parties want to hold U.S. liquid credit, dollars. A seemingly nasty side effect of this is that the U.S. national economy has to be in debt to the rest of the world to facilitate this holding of U.S. credit. Effectively, the U.S. dollar is chronically overvalued, either keeping the U.S. market balance interest rate lower than it would otherwise be or – especially now that they are stuck at the zero lower bound – forcing the government to incur constant deficits to keep the economy running. It is often noted how the reserve currency status allows the government to get cheap loans from abroad (as a result of the demand for bonds denominated in the reserve currency), but these loans practically just facilitate the economy falling into further debt to other national economies, i.e. maintaining current account deficits.

Even in this kind of situation, the obvious solution to balancing current account deficits and preventing public debt from exploding would be to lower interest rates – further below zero – and preferably setting a price on the government deposit guarantee.[1472]

However, as trust in the U.S. economy has been fading, the position of the dollar as the global foreign reserve currency is also at threat. Adopting a higher target inflation rate (before most other countries) might be the last straw that would cause other central banks to start dumping their dollar reserves on the market. Of course, doing so would vastly devalue the dollar and ruin their own nations' relative competitiveness, and hence these central banks should have a collective interest to, instead, make the transition to another reserve currency smoothly in mutual agreement.

Many are questioning the sense in the currency of one country serving as the global reserve currency and for example Zhou Xiaochuan suggested creating "an international reserve currency that is disconnected from individual nations" by gradually increasing the role of IMF's "special drawing rights" (SDRs) as an international reserve currency and expanding the basket of currencies forming the basis of SDR valuation to all major economies. (Zhou 2009) Currently, SDR valuation is only based on dollars, euros, yens and pounds sterling. (Williamson 2009, p. 4) This is very close to Keynes's suggestion of a "bancor" currency used for international transactions. The bancor would have been based on the value of 30 representatives commodities.

Some Post-Keynesians are suggesting that a bancor-like currency should be used to keep current accounts in balance through regulation and penalties. The author of this book would consider such measures unnecessary if all countries could stop trying to maintain surpluses purposefully and, instead, let exchange rates and wage levels balance competitiveness differences.[1473] However, adopting a tool like SDR for international transactions makes sense, as having the currency of any single nation as the global reserve currency inevitable distorts foreign trade and might also unduly concentrate global financial power. Especially, as the size of the U.S. economy is becoming a smaller and smaller portion of the world economy (with other economies growing much faster), the "Triffin dilemma"[1474] [1475][1476] is getting worse: It is harder and harder for the U.S. to supply enough liquidity to global markets, without the required current account and public budget deficits endangering the credibility of its currency.

1471 "Such differences [between the things that you can buy in different countries with what should be the same sums of money] exist basically because market exchange rates are largely determined by the supply and demand for internationally traded goods and services (although in the short run currency speculation can influence exchange rates), while what a sum of money can buy in a particular country is determined by the prices of all goods and services, and not just those that are internationally traded." (Chang 2010, p. 105)

1472 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

1473 See: "3.3.1 Solving Poverty for Good – Ending the Economy War".

1474 "Triffin dilemma", definition, Financial Times Lexicon, cited 21.7.2013, http://lexicon.ft.com/Term?term=Triffin-dilemma

1475 "11-06-12 Macro Analytics - Triffin's Paradox - Rule of Law - Charles Hugh Smith", Gordon T. Long – Macro Analytics, cited 21.7.2013, http://www.youtube.com/watch?v=MKOTQCpJGUs

1476 "Triffin dilemma" (or "Triffin Paradox") originally referred to the exodus of gold from the U.S. under the Bretton Woods system and nowadays means most often the problem that "the issuing countries of reserve currencies cannot maintain the value of the reserve currencies while providing liquidity to the world." (Zhou 2009, p. 1) However, it is also used to refer to slightly different conflicts arising from using the currency of one nation as the world reserve currency.

3.1.7 Incentive Trap for Grassroots-Level Innovation

In short:

- *People usually don't want to innovate themselves redundant – but they are especially careful to avoid (and even hamper) innovation when they are dependent on that one source of income and when reduced demand for their labor increases their risk of losing that source of income altogether.*

> "If you take any set of workmen in your own town and suggest to those men that it would be a good thing for them in their trade if they were to double their output in the coming year, each man turn out twice as much work and become twice as efficient, they would say, 'I do not know anything about other people's trades; what you are saying about increasing efficiency being a good thing may be good for other trades, but I know that the only result if you come to our trade would be that half of us would be out of a job before the year was out.' That to the average workingman is an axiom; it is not a matter subject to debate at all. And even among the average business men of this country that opinion is almost universal." – Fredrick Winslow Taylor (1916, p. 13)

Companies have underutilized innovative capacity on the grassroots level – among production staff and employees working directly with customers. Also, bottom-up innovations often encounter less change resistance than top-down dictated ones.[1477]

However, a less-discussed problem with such innovativeness is the fact that any employer coming forth with an idea that could increase the productivity of the type of work he is doing is practically digging the grave of his own job. This of course does not apply as much to quality-related innovations, working-condition improvements or service concept or sales process innovations, but it is clear that an idea which would allow doing the same thing with less work is more a threat to the employee doing that work than an opportunity unless the company is on a certain growth track. The is no guarantee that increases in productivity raise t wages of a kind of work (which is what some neoclassic economists, oblivious of Baumol's cost disease, like expect[1478]), especially not in the long run, as competiti can also make this lead to dropping prices.

And in addition to discouraging innovation, this proble also makes employees less cooperative in adoptin external innovations. In one unexceptional case exampl industrial employees refused to use the newly purchase high-tech cranes or their more advanced features, a the employees – and the union representing them considered all the new technological development toward automation to threaten jobs (Tikkanen 2012, p. 66). Th problem was especially notable in steel factories, where the cranes were operated manually by full-time workers (compared to paper factories where crane operation was only part of an employee's tasks). The worker union had so much power in the company that firing such saboteurs or otherwise enforcing cooperation was not even an option to consider.

There will always be resistance to change and people (and institutions[1479]) will always be afraid of innovating themselves redundant. No one wants to saw the branch on which one is sitting. However, if we want to maximize innovative thinking and implementation of those fresh ideas, we have to make sure that no individual person is dependent on a specific job or company.[1480] Even if companies' reward systems promise parts of the value innovations create to be moved to the employees (as e.g. bonuses or higher wages), these promises have little appeal if innovations simultaneously increase economic insecurity.

If possible increases in production efficiency did not threaten anyone's long-term income security, but at most some of their marginal working hours temporarily, it would be much easier for companies to implement incentives that encourage employees to make grassroots level development initiatives. At least there would be no justification for such progress-hindering blackmail (using the "they took our jobs" argument) that was seen in the crane case.

1477 Anderson, Nick, "Top Down or Bottom Up Approaches to Change", blog post, 15th Aug 2010, cited 22.11.2013, http://thecrispianadvantage.com/2010/08/15/top-down-to-bottom-up-approaches-to-change/

1478 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1479 See: "3.2.3 Unionization and Strikes", "5.2.1 The Personal Nature and Incentive Traps of Academia" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".

1480 See: "1.1.9 Companies as Competing Organizational Forms" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

3.1.8 Public Sector Inefficiency

In short:

- ***Currently, the public sector has mainly become a transfer payment ("stealing") and employment ("waste creation") machine.***
- ***Without an implicit responsibility to provide and maintain employment, even the public sector could operate much more efficiently and cut unnecessary costs (making it much more viable to have natural monopoly industries operating successfully under public ownership).***

It is often noted how inefficient the public sector is at providing services compared to the private sector. The main reason for this is that it lacks the profit incentive and the pressure of competition, which force companies operating in a free market to constantly improve their products and processes. However, as explained under "1.1.9 Companies as Competing Organizational Forms", privatization of natural monopoly industries often doesn't lead to benefits for consumers (but rather maximization of profits through e.g. restricting supply), and therefore it might be a more efficient solution to produce some services through the government, municipalities or publicly owned monopoly companies. As a nice side benefit, these kinds of services could be a significant source of public revenue.[1481]

However, the lack of the profit incentive and competition are not the only causes of inefficiency in the public sector. An even more significant factor is that the public sector's fundamental role nowadays seems to be providing employment.[1482] As a result, it has developed employment policies and departments that have become a giant "bureaucratic Goldberg's machine".[1483] But in addition to spending large sums on "trick employment policies", the public sector has become impotent to improve its own operations efficiently, as it has an implicit ("moral") responsibility to maintain jobs and no politician wants to stain her own public image with layoffs. Therefore, even when things could be done more efficiently, there is a big obstacle to actually reducing public costs.

One blogger commented that for example the municipality of Helsinki is doing "too well" economically: In his view, the revenues from its wholly owned electricity company and selling newly zoned lots reduced the municipality's pressure to downsize its leviathan bureaucratic machinery. The real problem here, however, is not that the municipality gets too much "easy" income: This income could alternatively be used to lower municipal income tax rates or to invest in e.g. better education services. The relevant question is why the municipality is unable to cut costs in areas where it would be possible. And this is mainly because of the political costs of such cost reductions.

Of course, many employee groups in the public sector have also managed to negotiate incredible job protection agreements and legislation, the five-year layoff protection of municipal employees in the cases of municipal mergers in Finland (adding them up to over 15 years in cases of repetitive mergers) as just one example.[1484] [1485] Greece is also notorious for public sector labor rigidity.[1486] These restrictions to cost-cutting are also one of the biggest reasons why the Finnish government has spun off many of its agencies as private companies: It is the only way to allow at least some labor cost flexibility. In many cases, this has been done even when it results in an otherwise nonoptimal situation: The publicly owned companies (e.g. state-owned infrastructure construction and maintenance company Destia) end up interfering with free market competition without being restricted by the same profitability requirements and might e.g. be getting unfair advantages in public investment programs.

If reducing work from a number of employees were always an acceptable way of reducing labor and if employees dissatisfied with their income had more opportunities to move to other sectors, the public sector would not have any implicit moral responsibility to maintain jobs and politicians could make downsizing and budget-trimming decisions with much lower political costs. This would of course not make the public sector as efficient as

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1481 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources" and "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

1482 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1483 Tamminen, Lilja, "Tempputyöllistämisen hinta työmarkkinoille", blog post, 22nd Dec 2013, cited 7.1.2014, http://liljat.fi/2013/12/tempputyollistamisen-hinta-tyomarkkinoille/

1484 Salokangas, Keijo & Kervinen, Kaija, "Lähes ikuinen irtisanomissuoja ihmetyttää: 'En usko että päättäjät ajattelivat tällaista'", YLE, cited 22.11.2013, http://yle.fi/uutiset/lahes_ikuinen_irtisanomissuoja_ihmetyttaa_en_usko_etta_paattajat_ajattelivat_tallaista/6827563

1485 Akimo, Minna, "Katainen: Kuntaliitosten irtisanomissuojan ketjutusta harkittava", Kaleva, 16th May 2013, cited 22.11.2013, http://www.kaleva.fi/uutiset/oulu/katainen-kuntaliitosten-irtisanomissuojan-ketjutusta-harkittava/630175/

1486 Stakianakis, John, "The Cost of Protecting Greece's Public Sector", NY Times, 10th Oct 2012, cited 22.3.2013, http://www.nytimes.com/2012/10/11/opinion/the-cost-of-protecting-greeces-public-sector.html

companies under tight competition, but combined with better incentive systems for public sector departments and publicly owned companies to improve productivity (including service quality), it could significantly reduce public expenditure without endangering service quality.

Another factor notably increasing the sizes of public budgets are transfer payments and corporate support schemes. The near elimination of cyclical and structural unemployment would significantly reduce the needs for transfer payments and the whole bureaucratic machinery running these schemes.[1487]

> One theory is also that "government bureaucracies develop internal pressures for self-aggrandizement and expansion",[1488] and hence fragmented governments with decentralized administration – which many countries with both income redistribution schemes and various employment and corporate support schemes have – tend to grow more, and local authorities' requirements for funds are more likely to expand. (Cameron 1978, p. 1248-1249)
>
> For example David Cameron (1978, p. 1260) argued that – especially for small, open economies – exposure to foreign trade tends to grow the public sector, as the country starts to employ corporate support schemes for their "national champion industries" and transfer payments to export industry workers who "sacrifice" wage raises to maintain competitiveness. See "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage", "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further", "3.1.6.2 Sticky Trade Imbalances" and "3.3.1 Solving Poverty for Good – Ending the Economy War" for more on this "economy war" which countries are currently fighting just to keep their own citizens employed while maintaining their "God-given right" to save up monetary assets.

1487 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

1488 For more on the self-preservation and self-aggrandizement instinct of institutions, see: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

3.2 LOCAL SOCIAL ISSUES

3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility

In short:

- *In policy discussion, it is often assumed that a conflict exists between income security and labor market flexibility and that the task of policy makers is to find a compromise between these.*
- *However, in an economy of constant technological evolution and changing demand, security can be maximized by maximizing flexibility – bringing the flexibility "within" employees, instead of employees being the unit of flexibility.*
- *Chronological variance (especially in the short-term) in a person's income is irrelevant for his economic security. What matters is the "probability variance" of what he can expect to earn cumulatively in the long-term. A momentarily static income stream is an illusion of income security – especially when it increases the risk of sudden long-term unemployment.*

"We should not complain about impermanence, because without impermanence, nothing is possible." – Thich Nhat Hanh

"Whosoever desires constant success must change his conduct with the times." – Niccolo Machiavelli

"Because of the variability of his income, he [a taxi driver] keeps moaning that he does not have the job security of his brother [personnel department clerk in a large bank] – but in fact this is an illusion, for he has a bit more. This is the central illusion in life: that randomness is risky, that it is a bad thing – and that eliminating randomness is done by eliminating randomness." … "You get pseudo-order when you seek order; you only get a measure of order and control when you embrace randomness." – Nassim Nicholas Taleb, Antifragile (2012, p. 84 & 6-7)

"My father could've been a great comedian, but he didn't believe that that was possible for him. And so he made a conservative choice: instead, he got a safe job as an accountant, and when I was twelve years old, he was let go from that 'safe job', and our family had to do whatever we could to survive. I learned many lessons from my father – not the least of which was that you can fail at what you don't want, so you might as well take a chance on doing what you love." – Jim Carrey[1489]

In "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?", we explained how fixing the Root Bug would eliminate most of our involuntary, long-term cyclical, structural and friction unemployment. Eliminating these by making it profitable to share work would provide the best possible economic security that can be achieved in a dynamic and turbulent environment where people's preferences change and technologies evolve.

Implicit contract theory was developed to explain why reduced demand for labor results in "quantity adjustments", i.e. layoffs, instead of price adjustments. It describes the formation of fixed work contracts as an insurance system, where risk-averse consumers prefer to pass the risks of unemployment on to risk-neutral companies, who get cheaper labor in return for such an insurance. And this logic works very well in an

1489 0:31->, "Jim Carrey on how his late father inspired him to follow his dreams", speech to Maharishi University of Management class 2014, viewed 13.4.2014, https://www.youtube.com/watch?v=ajMpfPYlHi4

environment where fluctuations are small and temporary and whole industries wane at most at the same rate as people retire.

The traditional approach to tackling economic insecurity by left-wing parties and the labor union movement has followed this same logic. They have attempted to prevent change by all possible means including making employment contracts hard to change and by making the reduction of labor as expensive, shameful and difficult as possible. Unfortunately, in a fast-changing, turbulent environment where technologies evolve, people's consumption preferences change and the lifecycles of industries can be less than a decade, rigidity can only create an *illusion* of security and it is far more likely to increase economic insecurity.

Hardness is not strength. Glass is fragile *because* it is hard. Metals are durable because they are soft: flexible and malleable. Suppressing one's emotions and "putting on a brave face" no matter what only makes one more at risk of bigger nervous breakdowns and less adaptable to different social situations and dramatic life changes.[1490] [1491] A relationship where neither party is willing to be flexible does not usually last very long – or at least isn't a very happy one. One of the 8 paradoxes of life listed by popular psychologist Tommy Hellsten (2008) is: "If you seek safety, live dangerously". Fenders of steel to protect your boat are not a good idea. Even a wild mosh pit in a rock concert audience can work safely as long as people keep their arms up or down, bumping softly into each other on their upper arms or chests. When someone lifts their elbows or goes head first into the crowd, damage starts to happen.

The competition between companies exists to find more efficient ways for achieving things.[1492] If companies cannot reduce the amount of labor they buy, they are unable to realize the benefits of these innovations – for their shareholders or clients and the whole society – unless they are simultaneously increasing their sales. Also, when the demand for products or services decreases or more efficient organizational forms as competing companies emerge, companies need to be able to adjust by cutting their costs if they are to retain any hope of reinventing themselves to get "back into the game." Preventing this only makes the game less even, allowing existing dominant players to reap higher profits than more equal competition would allow. More importantly for the employees, it causes layoffs to occur in bigger batches and on a shorter notice and increases the amount of unnecessary bankruptcies, significantly *increasing* economic insecurity for workers.

Currently, many companies are solving this problem with "external workforce" – leased employees. These are used as the flexibility buffer. The value of the flexibility to the companies can be seen in that they are ready to pay 50-100 % premiums for leased labor compared to what they pay people on their own payroll, despite their own employees being more reliable, skilled and familiar with the company's processes. This buffer does somewhat increase the economic security of the permanent staff – but labor unions' fear of the practice expanding causes them to campaign against this kind of outsourcing by all possible means. The external workforce isn't often very happy either (with the exception of industries with very high employee deficits, where there are always well paid gigs available, e.g. the IT industry in some places), as they have hardly any economic security at all or choice of gigs and are often at the mercy of the leasing companies. And the problem is precisely this "duality in labour markets that separates well-protected insiders from vulnerable outsiders." (EIF-1 2013) The unions should remember Nassim Taleb's "chief ethical rule": "Thou shalt not have antifragility at the expense of the fragility of others." (2012, p. 5-6)

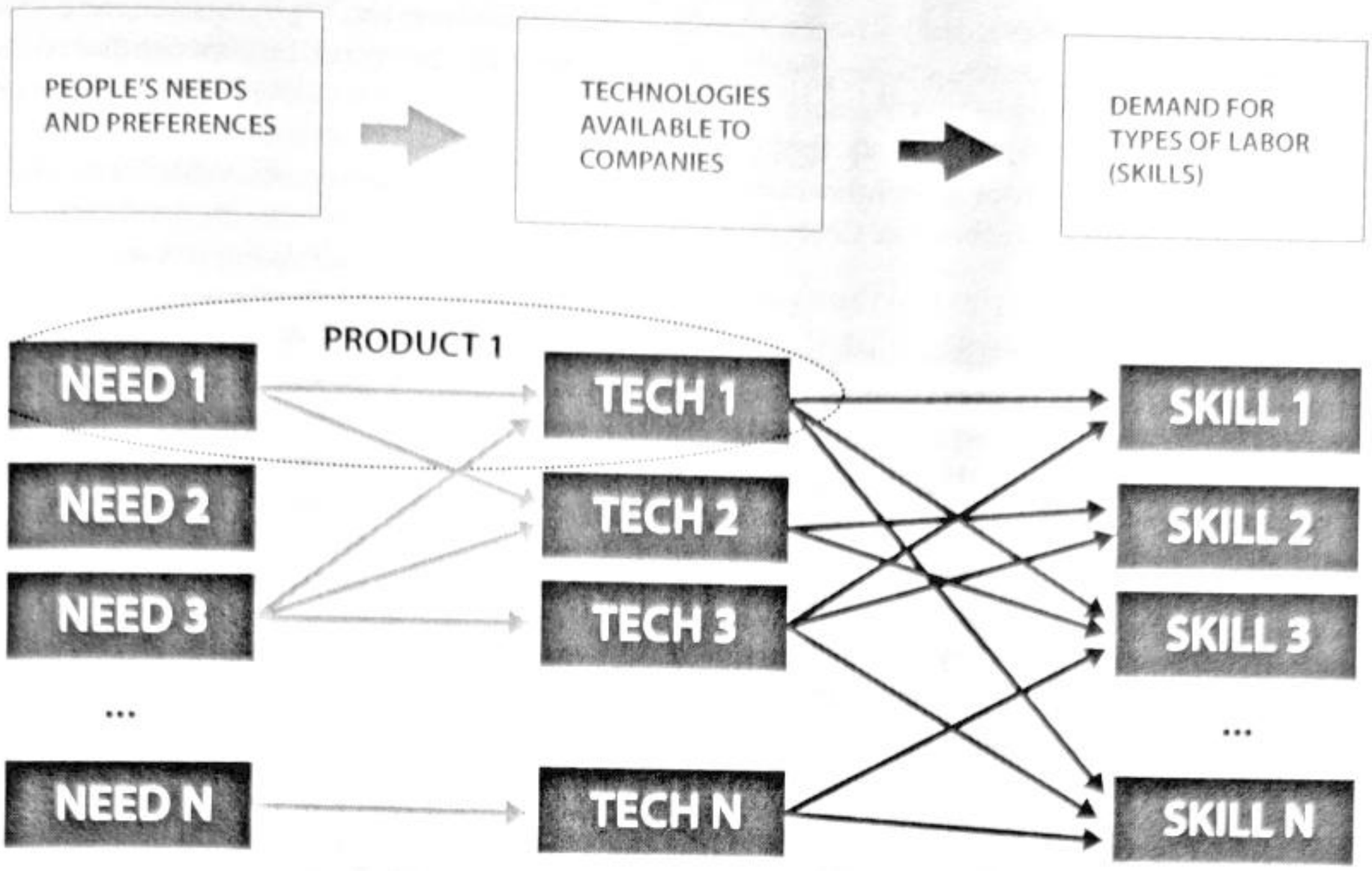
In a dynamic environment, economic security for everyone as "security within a job" is rather unrealistic. To provide security through lasting, "fixed-size" jobs, we would also need to prevent technological progress and limit freedom of consumer choice. As roughly demonstrated in Graph 33, the demand for different kinds of labor depends on people's needs and preferences and the technologies that are available to meet those needs. A "product", from one point of view, is formed as a combination of a company's customer competences (understanding of customer needs) and technological competences. (Danneels 2002) Having full freedom of consumption choices with variable human needs and preferences as well as freely evolving technology (means available for meeting human needs), but a planned economy in the labor market is a utopian vision if something is. And that's what we seem to be trying now, at least in Finland.

However, by ensuring that it is always profitable to share work and so spreading – "diversifying" – the need for flexibility, we can achieve a sustainable "security *of a job*" (or, rather, of earning opportunities and, hence, income) in the mid-to-long-term. Of course there will be variance in how much work is available in each industry and how much different types of skills are paid for according to supply and demand, but no one has the fear of ending up completely without income for long periods of time due to no fault of his own – e.g. purely out of cyclical or structural reasons.

1490 Brown, Brené, 2010, "The Power of Vulnerability", TEDx Talk, TEDx Houston, viewed 17.7.2013, http://www.ted.com/talks/brene_brown_on_vulnerability.html

1491 Porter, Tony, 2010, "A call to men", TED Talk, viewed 21.5.2013, http://www.ted.com/talks/tony_porter_a_call_to_men.html

1492 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".



GRAPH 33: TECHNOLOGY TRANSLATING HUMAN NEEDS INTO DEMAND FOR KINDS OF LABOR.

"There is a certain mathematical property to this bottom-up volatility, and to the volatility of natural systems. It generates the kind of randomness I call Mediocristan – plenty of variations that might be scary, but tend to cancel out in the aggregate (over time, or over the collection of municipalities that constitute the larger confederation or entity) – rather than the unruly one called Extremistan, in which you have mostly stability and occasionally large chaos – errors there have large consequences. One fluctuates, the other jumps. One has a lot of small variations, the other varies in lumps. Just like the income of the driver compared to that of bank employee. The two types of randomness are qualitatively distinct.

Mediocristan has a lot of variations, not a single one of which is extreme; Extremistan has few variations, but those that take place are extreme." ...

> "In Extremistan, one is prone to be fooled by the properties of the past and get the story exactly backwards." ... "It looks like a drop in volatility – and it is not." (Taleb 2012, p. 90-92)

Actually, short-term *chronological variance* in one's income is wholly irrelevant in terms of economic security. It is your total *long-term cumulative income expectations* and their *probability variance* that are relevant. Not knowing whether you will earn $0 or $1000 in the next week is not an income security issue, as long as you know you'll be earning e.g. at least $150 000 during the next five years. Losing your job temporarily is not a problem: Even if you had no savings buffers, banks would be willing to grant you affordable consumption credit, as long as they trust in your ability to earn income in the long run.[1493]

And what's even more noteworthy is that when the longer-term variance in total demand affects everyone's earning opportunities in the industry, it encourages the full utilization of available potential flexibility to balance those structural supply and demand imbalances,[1494] preventing them from causing chain reactions of income differences growing.[1495]

This shift from "security within a job" (job security) to "security of a job" (employment security) is what Dutch economist Hans Adriaansens originally referred to as "flexicurity". (Philips & Eamets 2007, p. 7) Flexicurity has become a popular buzzword, especially since 2004, referring quite broadly and vaguely to different policies aimed at simultaneously providing flexibility for companies and income security for employees. (Philips & Eamets 2007, p. v) The two main versions are the Dutch model – improving employment opportunities and social security – and the Danish model – a combination of "a low level of dismissal protection and high unemployment

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1493 This game-theoretical problem – together with the Permanent Income Hypothesis as well as habit formation – was explained in "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1494 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1495 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

benefits". (Philips & Eamets 2007, p. 7) The latter has become a common European benchmark for flexicurity policies. (Fabrice & Colomb 2009, p. 12) Flexicurity was also commonly referred to as the "modèle danois" in France before the popularization of frenchifications like "frexicurité" and "flexisécurité". (Fabrice & Colomb 2009, p. 22)

One classification of labor market flexibility (for employers) distinguishes between four types of flexibility:

- **"external numerical flexibility"**: reducing the number of people employed, by firing, hiring or adjusting the use of external workforce (including "entreployees"[1496] and ordering work as services)
- **"internal numerical flexibility"** – an employer's ability to modify the number and arrangement of working hours without changing the number of employees;
- **"functional flexibility"**: changing the content of an employee's work or moving them between departments,
- **"wage flexibility"**: altering wages in response to changes in labor market or competitive conditions. (Philips & Eamets 2007, p. 11)

Unfortunately many researchers and political entities tend to consider flexicurity a *compromise* between flexibility and security. The EU Employment Guidelines for 2003 are one example of this:

> "'...providing the right *balance* between flexibility and security will help support the competitiveness of firms, increase quality and productivity at work and facilitate the adaptation of firms and workers to economic change' (Council of the European Union, 2003, paragraph 12)." (*italics* added, Philips & Eamets 2007, p. 8)

In reality, there is no conflict between flexibility and security – and therefore no need to find a "compromise". Maximized flexibility and mobility provides maximal security and adaptability.

Also, the focus of flexicurity policies is often on providing social protection measures for "a flexible workforce", "atypically employed people" or people in "non-standard forms of employment". (Philips & Eamets 2007, p. 7 & 14) This implies that "permanent, full-time jobs" should remain the norm. The fact that most people's work contracts are made rigid is the reason for the economic insecurity of "external labor" – all needed flexibility is taken out of this small group. (Compare this to the increased risk imposed on the equity of a company by high debt leverage.[1497]) In investment portfolios, individual risks can be rendered insignificant by diversifying, and the risks of an individual large asset can be made insignificant for individual investors by sharing the risk between multiple investors. Similarly, the risks of reduced demand can be made insignificant for an individual employee by spreading the risk among a larger number of employees.

In short, the reason a "free market" causes economic insecurity is not because it allows too much flexibility, but – on the contrary – because the free market is not flexible enough! Even without restrictions, the natural costs of sharing work and the fear of unemployment quantize labor into jobs, making a human being the default unit of flexibility. To get the flexibility onto a "lower level", sharing work needs to become profitable. This might need a Pigovian tax on the harmful externalities of over-centralizing work[1498] or some other way of eliminating fears of long-term unemployment.[1499]

Nassim Nicholas Taleb's (2012) book "Antifragile: Things That Gain from Disorder" gives examples of how flexible, non-centralized systems and organizations can gain from uncertainty and a turbulent environment if designed to adapt and evolve. To get a robust or antifragile system, each component needs to be fragile or at least flexible. To achieve sustainable security – robustness – for employees and an antifragile market system that evolves and learns from shocks, we need to make every work hour (or other unit of labor *within people*) fragile. Maximal "internal numerical flexibility" minimizes the need for involuntary "external numerical flexibility" – firing.

However, it is completely understandable that labor unions – as self-preservation-oriented institutions – are objected to or skeptical towards such ideas (Fabrice & Colomb 2009, p. 14), as implementing them might erode the unions' current role in our centralized (and hence fragile) labor "market".[1500] This incentive trap and the illusions the union institution is trying to maintain will be discussed in more detail in "3.2.3 Unionization and Strikes".

Concluding with an analogy, the social security net of a Nordic welfare state is often talked about as a kind of mattress on which people can fall when they drop out of the labor market. The debate is often around whether the mattress works more like a trampoline that helps people

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1496 See: "4.1.2.6 Avoiding Tax Avoidance through 'Entreployees'".

1497 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

1498 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

1499 See: "4.1.3.1 Would a Citizen's Salary Be Enough to Make Sharing Work Profitable?".

1500 ...if it can be called a market at all. E.g. in Finland it is more like a system of human trafficking between unions and companies, with planned supply. See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".

get back into the labor market (on top of the pillars) or like a warm swamp that passivates and marginalizes people further. But why not make the whole labor market a soft balloon ocean from which it is harder to fall off completely – instead of it being a collection of hard pillars on which people try to balance and that shakes out huge chunks of people even in smaller earthquakes (e.g. structural shocks)? The need for a mattress below this ocean is discussed in "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

"It is a bad plan that admits of no modification." – Publilius Syrus, First Century BC

"Change is the law of life and those who look only to the past or present are certain to miss the future." – John F. Kennedy

"Everything is in a process of change, nothing endures; we do not seek permanence." – Masatoshi Naito

3.2.2 Unfair Income Differences and Limits to Social Mobility

In short:

- ***The function of paying wages is to encourage people to do things of which there would otherwise be a deficit – i.e. to balance supply and demand. Income differences are unfair only when people don't have choices. If one thinks someone else is paid too much, but one doesn't want to move into that other person's field, one should have no reason to complain.***
- ***Removing obstacles to educating oneself and making sharing work profitable would make every opportunity available to everyone in the mid-term – within their personal capabilities and preferences.***

"Between the product of labour (or service rendered) and the proceeds of labour lie the various bargains which we strike daily in buying the commodities we consume." ... "Hence a direct comparison between the product of labour and proceeds of labour will not furnish any valid and legal proof as to whether the labourer has received the whole proceeds of his labour." ...

"The product of labour, the yield of labour and the proceeds [of] labour are not immediately comparable. There is no common measure for these quantities. The conversion of one into the other is not done by measuring but by contract, by a bargain.

It is impossible to say whether the proceeds of labour of in[dividual] workers do or do not correspond to the whole proceeds of their labour.
The whole proceeds of labour can only be understood to the common or collective proceeds of labour." – Silvio Gesell, The Natural Economic Order (1916, Part 1, Ch. 2)

"Optionality will take us many places, but at the core, an option is what makes you antifragile and allows you to benefit from the positive side of uncertainty, without a corresponding serious harm from the negative side." – Nassim Nicholas Taleb, Antifragile (2012, p. 171)

> Many people (especially employer unions, right-wing politicians as well as "supply-side" economists) like to proclaim that income differences between professions are determined by differing levels of (or increases in) productivity. (Tähtinen & Törmänen 2013, p. 17) This claim is a total hogwash Firstly, it isn't even possible to compare objectively the "productivities" of industries and professions with different outputs. How many apples is a hair cut? This "exchange rates" between different outputs – their prices – are determined by supply and demand on the market and these prices cannot be assumed to remain fixed when changes in productivity occur.[1501] Also, within an industry, it is hard to compare the contributions of workers doing different types of work. Who is most "productive": the one who plants apple trees, the one who trims them or the one who picks the apples? Everyone's task might be equally necessary for efficient apple production.
>
> Of course we can compare the *increases* in (unit) productivity in each profession, but these increases are not what determine changes in real income in a market economy. "*Baumol's cost disease* "(a.k.a. "Baumol effect") is an example of how productivity increases in some profession can cause wages to increase in others as well. To demonstrate this, William J. Baumol and William G. Bowen used the "Mozart analogy", the case of a string quartet. Although a live performing quartet's "unit productivity" has not increased in the past 200 years, the real wages of professional violin and cello players have risen significantly with the general living standards. (Baumol & Bowen 1966) [1502]
>
> As explained in "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand", a market price is not the full value of anything, but rather the emergent exchange rate at which supplied and demanded amounts are balanced. And this applies also to relative wages – the prices of different kinds of work (however, not to the total demand for work, which is rather balanced with supply by the general interest rate[1503]).
>
> Wages are determined by the demand for the goods and services that the kind of work is used to produce and people's willingness and ability to do that kind of work, i.e. its supply (in the current situation with labor *de facto* quantized into jobs,[1504] often this is almost the same as the *number of people* available and willing to do the job). Wages can rise without any changes in unit productivity if a profession becomes less popular, or if demand for the outputs increase (people are ready to pay more for them), or if technologies requiring the type of skills in question are adopted on a wider scale in the same industry or others. The increase in overall living standards – the total real income of the population – is determined by overall increases in productivity and the amount of work done (Smith 1776, p. 8), but how this real income is distributed between the factors of production[1505] and between individuals is determined by supply and demand – or, unfortunately, politics.
>
> What makes the "productivities" of different industries comparable, are the market prices of the outputs, which are determined by supply and demand. And from the point of view of an individual company, such "financial productivity" is a relevant measure. But calling this "productivity" is very misleading, as then e.g. restricting supply would increase productivity.[1506] Usually, "productivity" refers to the amount or quality of output that can be produced with a set amount of resources,[1507] [1508] and this clearly has not changed.
>
> Within a profession – or when using two different technologies and combinations of skills to produce the same product or otherwise directly commensurable products – such "real output productivities" can of course be compared, and, in this sense, income differences *within* a profession can reflect productivity differences and encourage people to make themselves more productive in what they do. (Although research has shown that, for example in creative work, some kinds of monetary incentives might decrease productivity.[1509])
>
> The reason different jobs are paid different amounts – and why people are paid for work at all – is to encourage people to prioritize work that is in dire need over things they'd most want to be doing – for example designing a machine over playing the guitar (if one hasn't achieved Santana's or Springsteen's status).

1501 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

1502 Of course, one can argue that with modern recording equipment and digital media sharing technology, recorded music allows one quartet to entertain millions more people with better quality than it could before, but that doesn't explain the rise in the pay they receive (and the price the audience pays) for live performances.

1503 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

1504 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1505 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1506 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".

1507 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

1508 It would also be misleading to say that income differences are determined by "profitability" (see: "1.1.8 Labor and Capital (and Land?) – The Factors of Production"), as higher wages are exactly what eat up the profitability of companies in industries with tight competition. E.g. pilots have historically had high wages, even it the airline industry has hardly ever been very profitable.

1509 Pink, Daniel, 2009, "The Puzzle of Motivation", viewed 16.5.2013 http://www.ted.com/talks/dan_pink_on_motivation.html

Sidenote Box 322A: The Causality Conundrum of 'Productivity': Even the 'Marginal Productivity Theory' Accounts for Scarcity

"In our standard textbook model we tend to assume that when someone is paid 10 million instead of one, it must be that his marginal product to the firm has grown from one to ten. I think this an excessively naïve view of how the labor market operates – at least at the very top end. It's very difficult to put numbers on individual marginal products in large corporations. And it has a lot of imperfect information to say the least." – Thomas Piketty[1510]

"[In a power failure, t]he network would collapse, the connections would go away, and output would of course drop very rapidly. There'd be a set of economists who'd sit around explaining that electricity was only 4 % of the economy and so if you lost 80 % of electricity you couldn't possibly have lost more than 3 % of the economy – and you know there would be people in Minnesota and Chicago … writing that paper – but it would be stupid!" – Larry Summers[1511]

John Bates Clark responded to the Marxist claims of "capital exploiting labor", by writing:

> *"It is the purpose of this work to show that the distribution of the income of society is controlled by a natural law, and that this law, if it worked without friction, would give to every agent of production the amount of wealth which that agent creates. However wages may be adjusted by bargains freely made between individual men, the rates of pay that result from such transactions tend, it is here claimed, to equal that part of the product of industry which is traceable to the labor itself; and however interest may be adjusted by similarly free bargaining, it naturally tends to equal the fractional product that is separately traceable to capital." (Clark 1899, Preface, Parag. 1)*

Also, Milton Friedman framed the "capitalist ethic" as:

> *"To each according to what he and the instruments he owns produces." (Friedman 1962, p. 161-162)*

The trouble with this "traceability" view of "productivity" is similar to the trouble with causality in general: When a number of factors are necessary for an outcome to occur, identifying any *one* of them as "the cause" of the outcome requires making assumptions about the other factors.[1512] The neoclassical "marginal productivity theory" also takes into account the scarcity of each factor.

> *"With the marginal revolution, Jevons, Menger and Walras developed pure exchange models in the 1870s that shifted the explanation of price away from the classical difficulty-of-production focus to the neoclassical focus on utility and relative scarcity. Adam Smith's diamond-water paradox was no longer a paradox, since price was explained as proportional to marginal utility, which depended on scarcity." (Cohen & Harcourt 2003, p. 201)*

If we consider e.g. a linear "Taylorist" production process, which would be divided into 50 distinct tasks, it might be that all of the first 40 tasks are equally necessary for producing an output of any use value. Removing just one of them would make the others useless. Only the bottleneck resource would have any "marginal productivity". If this process was the only available use for the skills in question, the prices of

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1510 17:02->, Piketty, Thomas, 2014, "Capital in the Twenty-First Century", video, London School of Economics and Political Science, viewed 27.6.2014, https://www.youtube.com/watch?v=JXOLiJY2Ehg

1511 8:52->, "Larry Summers at IMF Economic Forum, Nov. 8", viewed 5.6.2014, https://www.youtube.com/watch?v=KYpVzBbQIX0

1512 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

Continued on page 316 ►

> kinds of work would be determined according to their *supply curves*.[1513] The type of activity that would be the most highly paid in this production process would not be the one in any way "most productive", but the one which is most scarce in supply. And if we considered scarcity to be a measure of "productivity", we'd end up in a situation, where the most disliked work is the most productive – ending up very close to the Marxist theory of value, where pain is the measure of gain.[1514]
>
> So, not even the marginal productivity theory says that the wages of different kinds of labor would reflect their relative "productivities". As Silvio Gesell puts it:
>
> > "The product of labour, the yield of labour and the proceeds [of] labour are not immediately comparable. There is no common measure for these quantities. The conversion of one into the other is not done by measuring but by contract, by a bargain.
> >
> > It is impossible to say whether the proceeds of labour of in[dividual] workers do or do not correspond to the whole proceeds of their labour.
> >
> > The whole proceeds of labour can only be understood to the common or collective proceeds of labour." (Gesell 1916, Part 1, Ch. 2)

1513 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
1514 See: "Sidenote Box 113A: Objective Value Theories and Morality".

Now, a balance point is seldom a situation where all wages are equal, simply because people's work preferences are unlikely to match exactly the total demand for each kind of work.[1515] What one would need to be paid to do different kinds of work, is a very subjective personal question, but some characteristics of professions or tasks tend to make them undesirable for most people. Commonly listed factors making a kind of work undesirable include the unpleasantness of the job itself and the specialized skills required (e.g. Levitt & Dubner 2005, p. 103). Adam Smith himself had a broader list of five major factors that cause some types of work to be paid more or less than others on average:

1. agreeableness vs. disagreeableness of the employments themselves, including cleanliness vs. dirtiness and honorableness vs. dishonorableness
2. easiness and cheapness vs. the difficulty and expense of learning the required skills
3. constancy vs. inconstancy of employment in them
4. the small vs. great trust which must be reposed in those who exercise them
5. the probability vs. improbability of success in them. (Smith 1776, p. 87-91)

1515 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".

However, wages are not necessarily determined directly by how much experience or expertise they require or how much responsibility they involve – unlike labor unions like to proclaim, requiring e.g. experience bonuses and specific raises for specific amounts of added responsibility in collective agreements. A wage is by no means a measure of an activity's full *value* to the society – it is simply its market price.[1516] A type of work might require very specialized skills and involve immense responsibility, but if it is the kind of job that everyone wants to do – possibly even for free – and many of those people are able to do it well, then there is no need to pay high wages for – or any wage at all.

An extreme example of this is parenting, which is probably one of the most responsible and valuable things one can do in a society. Although the "upside potential" of parenting in a child's development is often overstated by parenting experts and the parenting self-help industry, bad parenting can destroy many people's lives (Levitt & Dubner 2005, p. 154-155). In addition to the children parented, it can have harsh externality effects on other people through crime and influence on the cultural environments of e.g. schools (Levitt & Dubner 2005, p. 115-145). But still, there is no need to pay people for parenting, as people are even ready to pay to adopt children and parent them for free. And

1516 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely

paying people for parenting would probably not improve "service quality", as external motives tend to cannibalize intrinsic motivation significantly. (Deci & Ryan 2008) Would you have preferred being raised by "professional parents"?

Monetary incentives can have counterproductive effects in terms of individual productivity within some professions (e.g. when creativity is required), but they can also have adverse, surprising consequences for total supply and demand: a financial incentive (especially when first introduced) can also *reduce* supply, as often happens if it e.g. replaces a "*moral* incentive", as in the case of paying a stipend for blood donations (Levitt & Dubner 2005, p. 19-20). Monetary pay can make an activity less attractive. Adam Smith had a theory that some performing artists (like opera singers) get paid so much because taking a pay for such activities at all is comparable to "public prostitution", and hence somehow shameful. (Smith 1776, p. 92)[1517]

Although the universal applicability of Smith's specific claims can be questioned, such examples clearly show that wages should not be a measure of the social status granted by a profession either, but rather complementary to it. Both monetary pay and gained "social capital" (including respect) can serve as rewards for a work done, and therefore an increase in one should logically reduce the need for the other type of reward – not increase it.

If people's passions for productive activities and their needs for the outputs would happen to match each other perfectly, then the most productive situation is one where no one is paid anything for anything. GDP would be zero – because no transactions would be accounted in monetary terms – but produced value would be maximized! This is yet another example of why GDP is a bad measure of produced value or human happiness and welfare.[1518] This whole issue of how money has become a "definition of value" for many of us is discussed in more detail in "The Guilt Economy".

As income differences are meant to balance supply and demand and are (or should be in a market economy) determined by people's capabilities and preferences, talking about income differences in general as a problem that should be removed or minimized doesn't sound very constructive. There is no reason to attribute absolute value to *income equality* (which, btw, has nothing to do with the equality of "human worth" or "human dignity", which is what Marx seems to have concluded[1519]), unless you grant value to people *being similar* and liking the same things in general – i.e. unless you think that people should (and can) be standardized as much as possible in terms of their abilities and individual preferences. It is completely fair that those, who manage to be more useful to others and that agree to do the tasks most direly needed in the society, get to decide over how to use a bigger part of the produced benefits. And versatility of people's abilities and preferences is probably one of the greatest forms of wealth mankind possesses and what allows it to adapt to different circumstances as well as progress technologically and socially.[1520]

Also, there is nothing unfair about someone making big profits by taking the risk of investing in something that others do not dare invest in when it ends up producing a lot of value to people (unless the profits are based on hoarding up vital, non-producible resources or otherwise obtaining a blackmailing monopoly position[1521]). Anyone else would have had the option of making that same investment and taking the risks themselves. With today's labor productivity, there are many kinds of work which allow saving up some initial capital for investments – unless those opportunities are protectionistically kept out of the reach of some people.

And as explained under "1.1.8 Labor and Capital (and Land?) – The Factors of Production", the profit made by risk-free capital (the interest rate) should be determined fairly according to people's time preferences and the available opportunities to invest (as determined by expected future consumption and technological development), by the central bank keeping inflation stable.[1522] If real interest rates have the possibility of falling negative as well[1523] and private monopolies are eliminated, there should be no need to argue (as politicians and unionists now spend

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1517 "There are some very agreeable and beautiful talents of which the possession commands a certain sort of admiration; but of which the exercise for the sake of gain is considered, whether from reason or prejudice, as a sort of public prostitution. The pecuniary recompense, therefore, of those who exercise them in this manner must be sufficient, not only to pay for the time, labour, and expense of acquiring the talents, but for the discredit which attends the employment of them as the means of subsistence. The exorbitant rewards of players, opera-singers, opera-dancers, etc. are founded upon those two principles; ..." (Smith 1776, p. 92) Wonder what Adam Smith would think of the stage shows and music videos of "modern" pop artists like Christina Aguilera, Katy Perry and Miley Cyrus.

1518 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

1519 "There was, however, an important fact which prevented Aristotle from seeing that, to attribute value to commodities, is merely a mode of expressing all labour as equal human labour, and consequently as labour of equal quality." ... "The secret of the expression of value, namely, that all kinds of labour are equal and equivalent, because, and so far as they are human labour in general, cannot be deciphered, until the notion of human equality has already acquired the fixity of a popular prejudice." ... "The brilliancy of Aristotle's genius is shown by this alone, that he discovered, in the expression of the value of commodities, a relation of equality." (Marx 1887, p. 39-40)

1520 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

1521 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".

1522 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

1523 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

their days arguing) how much profit it is "fair" for capital to make.

But **if wages *fail* to bring the supplied and demanded quantities of different types of labor and skills into balance** or *are prevented* from doing so – by e.g. controlled education positions, collective bargaining (cartels) and minimum wages (illegalizing trade below a specific price)[1524] – **there is hardly any justification for income differences** (between types of work) at all! At that point, it would be more fair to just adopt an equal hourly wage for everyone[1525] and then just decide with a lottery or competition (like university entry examinations are currently)[1526], who gets to do the fun and respected jobs they want and who has to do what is left over – who get to be the winners and who the losers. Such a planned economy would unfortunately – in addition to being a very unfair class society – be very bad at adapting to changes in people's consumption preferences (demand) and technological progress.[1527]

Also, at this point, we run into the difficulty of determining what is "work" and what is not? If I want to be e.g. an artist specializing only in making cows out of pinecones and matches, why shouldn't I deserve to be paid the standard wage for that just as much as an opera singer? And what could be more productive than raising children properly? If I spend 24/7 raising my four children, why shouldn't I get paid a full wage for that? Practically, there is little justification for paying wages at all if not to encourage people to do things that produce value for others more and that others would want more of than people are willing to produce voluntarily. With equal wages, we'd have to force some people to choose some jobs in any case, so why pay anyone at all? Why not just dictate responsibilities for people?

Theoretically, supply and demand in a market of free choices should be completely fair. However, during both times of recession and economic growth, income differences in both Western countries and the developing world seem to polarize, which cannot mean a constant polarization in people's preferences. Actually, many people in low paying jobs would love to do the things that the people who earn better do – even without the higher pay. Clearly, in a "free" labor market, the price mechanism doesn't quite work. How did we arrive in this perverse situation where those who do the jobs no one wants to do get paid the least and vice versa?

This can only mean that people don't have choices and opportunities! Giving everyone the fullest possible positive freedom to choose their position in society – and to change it later – is also the easiest way to fulfill John Rawls' "veil of ignorance" requirement – without needing to find out and measure each individual's preferences thoroughly.[1528]

For supply and demand to function fairly, agents need to have choices. Not everyone needs to have every choice at every given moment, but there needs to be choices – also along the way (during their "working lives"), not just initially. Technologies evolve and people's preferences change much faster than people die and are born. For prices to be able to balance the supply between two different types of work, these types of work need to be "linked" to each other through chains of people that have (long run) choices between some activities. For example, for a structural imbalance between plumbers and doctors (e.g. an oversupply of plumbers and a deficit of doctors) to be balanced does not necessarily require any plumber to be able to learn medical skills. It suffices that there e.g. is a plumber who can learn to teach, a teacher who knows how to massage, a masseur that can upgrade his skills to those of a physiotherapist and a doctor currently working as a physiotherapist.

If everyone had the opportunity to learn whatever profession she wanted and was able to learn, as well as to participate in the work available in any profession and get compensated according to her relative productivity, there would be no unfair income differences or workforce exploitation: If you were dissatisfied with your income or working conditions, you could always go and do something else. No one could be forced to do any job that she considers "a crap job". There would be no "losers" in the labor market. Instead, everyone would be winning in her own way.

Currently, minimum wages, collective bargaining and externally dictated numbers of starting places in higher education hamper with the wage mechanism. But what polarizes income differences in a completely unregulated market? The most fundamental limitation to mobility between professions and positions is the quantization of labor into jobs, which results in the situation where most people realistically have choices of how to employ themselves only during strong economic growth and high inflation pressures. Otherwise, the constant deficit of "jobs" and the resulting income insecurity require everyone to take and keep whatever "jobs" they can get.

In a changing and uncertain world, there are inevitably structural imbalances and, if left to the market, wages rise in sectors where the demanded amount exceeds the

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1524 See: "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)".

1525 ...or at least an equal *average* hourly wage for every profession if we still want to reward individual productivity.

1526 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability").

1527 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?"

1528 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance".

supplied and drop when there is surplus supply. With labor rigidly quantized into "employees" and "jobs", the imbalances unavoidably mean unemployment in some sectors and labor deficits in others.[1529] Because the system of course doesn't want to spend resources on expensive education in vain, it carefully avoids overeducating people "to be unemployed" after a 5-7 year degree.

Let's clarify what we mean by "the system" here. In countries where education has to be funded privately by individuals, no one will take the risk of taking a loan for such an education unless they are sure to get a well-paying job afterwards. Where education is subsidized publicly (e.g. Nordic welfare states), the government often purposefully limits the number of university places to avoid wasting public resources: It intuitively seems more efficient to have unemployed uneducated people than unemployed educated people – "education going to waste" (although it isn't quite that simple, especially when the labor deficit ends up being in professions of industries with public funding, like healthcare). These limits are often further tightened by the influence of the labor unions in these sectors, whose first priority is to protect the benefits of the current employees – including their employment security and their bargaining position for higher wages granted by an artificially maintained labor deficit.

However, due to fast technological change, the jobs requiring long education are at least as volatile in terms of total demand as low-skilled jobs. This means that the labor deficit at the NAIRU level is almost always in these highly educated jobs while the surplus persists in the low-skilled positions. Thus income differences between these increase regardless of economic trends. Statistics clearly show that unemployment rates for people without upper secondary school education tend to be from twice to five times as high as for those with tertiary education.[1530] (Barceinas-Paredes et al; Asplund et al 2001)

However, if it were always profitable (and standard practice in the public sector) to let everyone capable and willing to participate in the work available in a sector, there would be a lot less risk in slightly overeducating oneself – or the workforce as a whole. For example, educating 20 % "too many" doctors would not result in 20 % of doctors being unemployed, but doctors having 20 % more spare time – and this only if none of the doctors had any other choice of work that they considered a better option considering the available working hours and market wage. If, in such a situation, many doctors wanted desperately to do full-time medical work, their mutual competition for the additional shifts would bring the doctors' wages down, eventually making some other option more lucrative for some of the doctors.

Overeducating so that employees have more versatile skills also makes the system far more flexible and adaptable and increases employees' bargaining power. If 20-30 % of employees in every industry had the required skills for some other kind of work as well, this would provide more than enough short-term flexibility between industries and while this slack is being used up, more of the employees in the declining profession have more and more spare time *and* incentive to start re-educating themselves early on, "preemptively". Different industries competing over this "slack" to save costs by sharing work[1531] would make sure that employees have options. Those most eager to re-educate themselves would likely take more time off from work for their studies, leaving more work for others (the ones with a less flexible mentality and life situation) already before the profession shifters have moved on to "greener pastures".

Companies would always be competing over *employees* in every line of work regardless of the total demand for *labor*. Of course, competition would still be the tightest in sectors with the biggest labor deficits, but the "Iron Law of Wages", which pushes wages down to subsistence level when there is the slightest oversupply, would not be valid anymore, because this oversupply would no longer involve a threat of complete, long-term unemployment and starvation and everyone dissatisfied with the working terms or conditions could move to work somewhere else – a threat, which all employers would have to take into consideration when deciding what wages to offer.

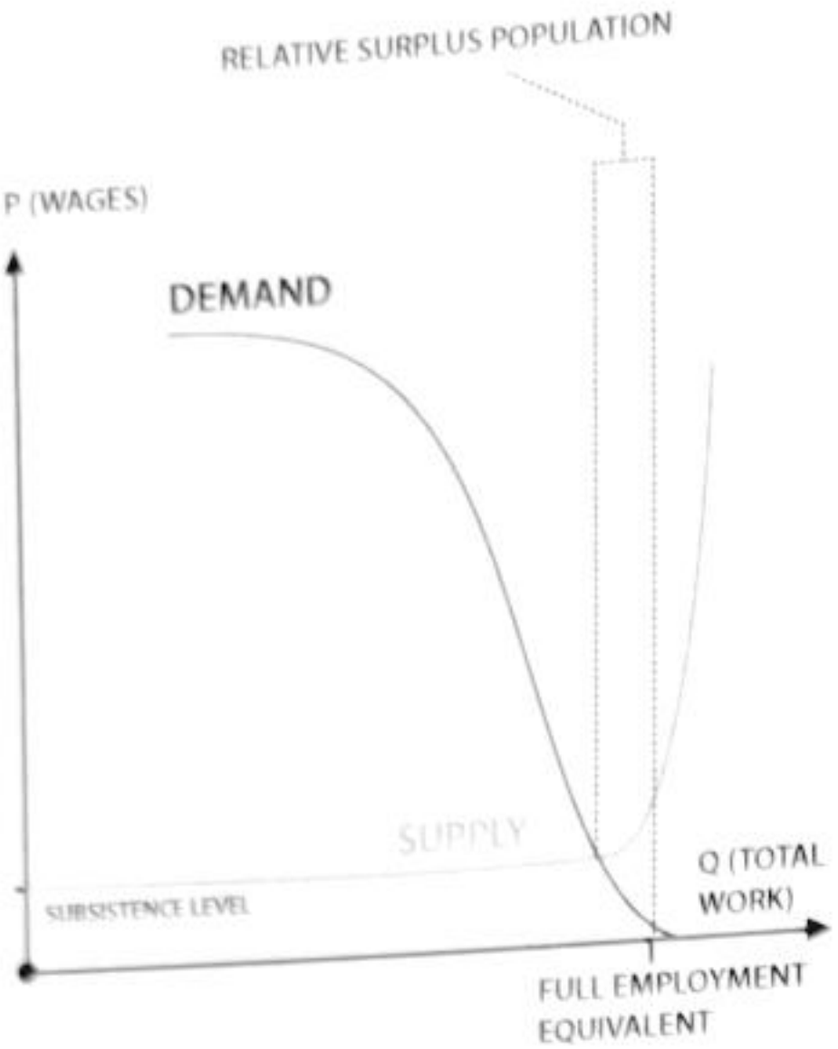
If we look at the dynamics of the Iron Law of Wages in terms of supply and demand, it practically means that the supply of labor is a "hockey stick": In the absence of social support, no one can afford to be the unemployed one who starves to death and thus everyone has to compete over the available "jobs" by any means. Thus, even with just a few unemployed (as a "reserve army of labor"), everyone will work for whatever sum they need to survive.

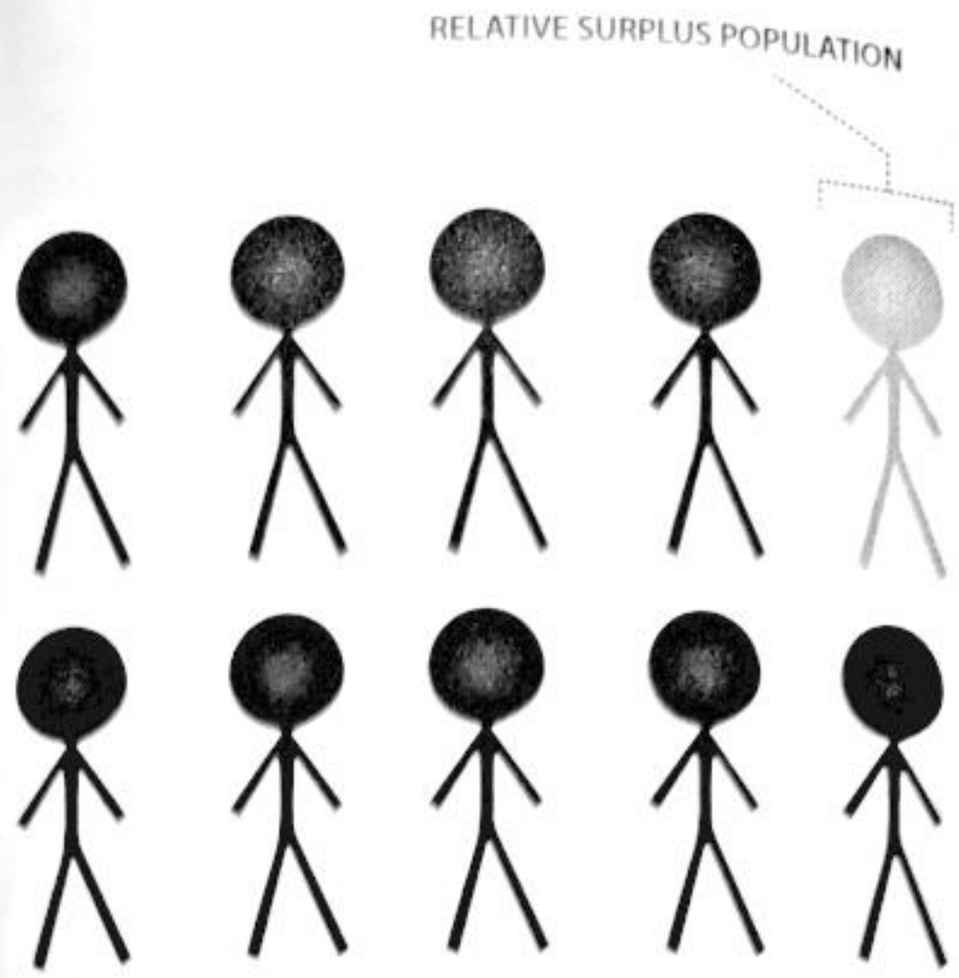
If, however, work was always shared (in the mid-term) between all participants in the labor market, the supply curve would be much smoother, as it would depend on the marginal personal cost the employees attribute to an extra hour – or whatever other unit – of work, instead of the price that can be blackmailed out of a person at the threat of starvation. The surplus capacity would be *"within"* employees as extra work capacity instead of as idle employees, "a relative surplus population."

1529 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1530 See, Figure 10, "Unemployment Statistics", European Commission Eurostats, cited 5.4.2013, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics

1531 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".





GRAPH 34: THE IRON LAW OF WAGES IS A RESULT OF THE FACT THAT THE SUPPLY CURVE OF LABOR IS A "HOCKEY STICK", BECAUSE THE UNIT OF LABOR IS A HUMAN BEING: NO ONE CAN AFFORD TO BE THE ONE FIRED.

Income differences would be determined fairly by supply and demand – the need for different kinds of skills and people's preferences between different types of work. The best way to break and mitigate interest group gridlocks is to facilitate easier mobility between interest groups.

In a working labor market, rising wages in one profession should increase the supplied amount of that kind of labor and dropping wages should reduce the supplied amount. When education is not subsidized, even an inverse effect – a kind of "Matthew effect"[1532] – is possible: Lower income can further reduce a person's chances of re-educating himself into another line of work and force him to work longer hours (and possibly multiple low-wage "jobs") to make ends meet – increasing the supplied amount of low-skilled labor, hence lowering wages and making it yet harder to acquire new skills (or, actually, *degrees*[1533]). Simultaneously, when education opportunities are limited, rising wages in the regulated professions will make people more inclined to "downshift", as they can get by with less work and the marginal utility of income falls below that of additional free time – which further reduces the supplied amount and polarizes income differences further and further.[1534]

Making sharing work profitable would likely reduce the differences in pay per hour, regardless of whether education is subsidized or not, as a lower risk of complete unemployment would reduce the risks of student loans for both banks and employees. However, if we observe countries with no public subsidies for higher education, such as the U.S., it is more often so that parents fund their children's education, than that people would take loans to pay for their whole degree. People with rich parents paying for their education and who hence enter the labor market debt-free would still be in a completely different bargaining position. If you consider it fair that parents' wealth strongly affects their children's possibilities of making a living, then there of course is no problem with this.[1535]

To completely eradicate a plutocratic class society, some kind of public education subsidy is likely necessary – but the optimal level of such subsidies is debatable. However, in considering such possible "waste", it is noteworthy that stimulating "overeducation" would have the added benefit of increasing the room for structural flexibility and facilitate more cross-disciplinary innovation.

On the other hand, we should strongly question the necessity of academic degrees in many professions as well as this whole institution where academia (whose primary function is basic scientific research through theoretical debate and diligent empirical studies) is granted an implicit monopoly of both higher education *and* assessment of individuals' professional capabilities. Breaking this rigidizing, creativity-killing and inefficient

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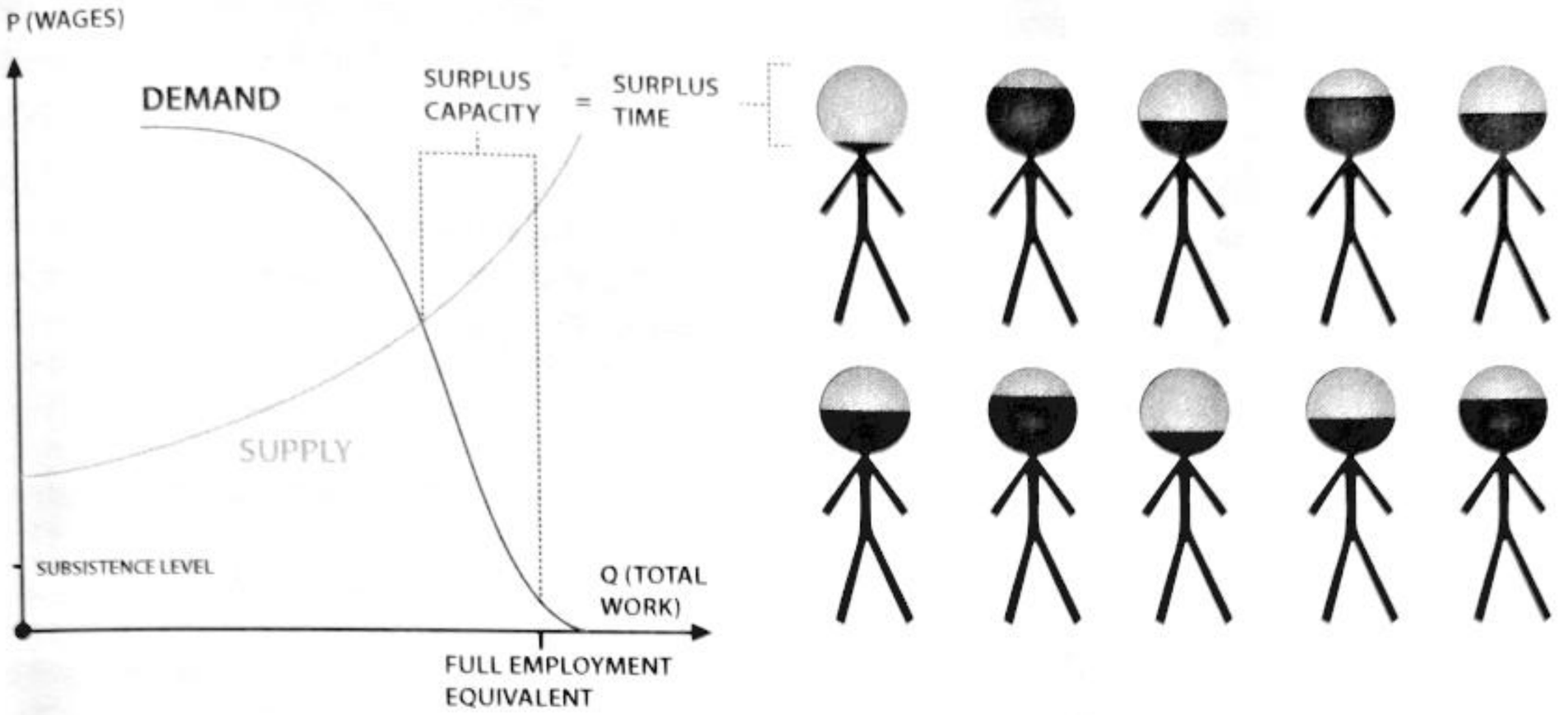
1532 "For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken even that which he hath" – Matt. 25:29, The Bible, King James Version.

1533 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

1534 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".

1535 See: "2.1 Normative Principles – What Do We Want from an Economic System?".



GRAPH 35: THE SUPPLY CURVES OF INDIVIDUAL KINDS OF LABOR AND AGGREGATE LABOR ARE SMOOTHER WHEN SHARING WORK IS PROFITABLE.

setting by utilizing opportunities provided by modern information technology and psychological research would revolutionize mobility in the labor market. Guidelines and ideas for educational reform are discussed briefly in "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

If we want to stop the – both unjust and inefficiency-causing[1536] (Chang 2010, p. 137) – polarization of income differences for good, we need to start thinking about "social mobility" more broadly than merely as the absence of a connection between children's and their parents' income and education levels (Tähtinen & Törmänen 2013, p. 70-74). We cannot afford any artificial restrictions of choice in profession. We need everyone to have choices – always. At least theoretically in the mid-term.

> "Clearly the most unfortunate people are those who must do the same thing over and over again, every minute, or perhaps twenty to the minute. They deserve the shortest hours and the highest pay." – John Kenneth Galbraith (Eisenstein 2011)

> "Owing to the extensive use of machinery, and to the division of labor, the work of the proletarians has lost all individual character, and, consequently, all charm for the workman. He becomes and appendage of the machine, and it is only the most simple, most monotonous, and most easily acquired knack that is required of him. Hence, the cost of production of a workman is restricted, almost entirely, to the means of subsistence that he requires for maintenance, and for the propagation of his race." ... "In proportion, therefore, as the repulsiveness of the work increases, the wage decreases." ... "Masses of laborers, crowded into the factory, are organized like soldiers. As privates of the industrial army they are placed under the command of a perfect hierarchy of officers and sergeants. Not only are they slaves of the bourgeois class, and of the bourgeois state; they are daily and hourly enslaved by the machine, by the overlooker, and, above all, by the individual bourgeois manufacturer himself." – Karl Marx & Friedrich Engels, Communist Manifesto (1848, p. 9-10)

1536 Beddoes, Zanny Minton, "For richer, for poorer", Special report: The world economy, 13th Oct 2012, http://www.economist.com/node/21564414

"The whole of the advantages and disadvantages of the different employments of labour and stock must, in the same neighbourhood, be either perfectly equal or continually tending to equality. If in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many people would crowd into it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of other employments. This at least would be the case in a society where things were left to follow their natural course, where there was perfect liberty, and where every man was perfectly free both to choose what occupation he thought proper, and to change it as often as he thought proper." – Adam Smith, Wealth of Nations (1776, p. 86)

Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power

"Power tends to corrupt, and absolute power corrupts absolutely." – John Emerich Edward Dalberg-Acton (aka Lord Acton)

"Managers could always find a way to observe the letter of the contract but not the spirit, especially when it is not easy for shareholders to verify whether poor profit performance by a manager was the result of his failure to pay attention to profit figures or due to forces beyond his control." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 17)

The massive bonuses CEOs and other top management of large companies receive are often under criticism and politicians are eager to suggest caps or "wage ceilings" (especially in the financial industry) for their compensation to appease and please the angered masses. The argument is that no one needs tens of millions of dollars for their living and that this pay cannot significantly increase anyone's well-being or quality of life anymore. But let's imagine ourselves in the positions of a CEO and a corporate board chairman and consider why it really is that CEOs get paid so much.

Firstly, of course, there's the basic supply and demand: skillful and diligent leaders who are willing to sacrifice their lives for a company[1537] are not abundantly available. The choice of CEO – who is in charge of big strategic decisions – can have a huge impact on a company's success. Although the upside potential between the perceivably 10th and 20th best CEO available probably isn't quite as big as popular leadership books and case studies like to suggest, the downside potential of recruiting a lousy or deceitful CEO is surely devastating.[1538] Therefore paying an extra $10 million to avoid such risks is not a big cost for a company with $10 billion in revenues.

Even more importantly, high turnover in CEOs is a significant cost, as this might involve changes in strategic focus and it takes a while to get briefed and adjusted into the new line of business – or into the position when recruiting a manager from inside the company. Therefore the high pay prevents other companies from stealing one's key player. Even if good CEOs weren't a "limited, vital resource", a competitor might "steal" (or otherwise bribe) a top manager in your company just to damage your competitive potential – if it is cheap to do so. Hostile headhunting is much cheaper than hostile takeovers of whole companies – which is also

1537 Such top-level responsibilities are really inefficient and even dangerous to "share" in the short-term – during the job – although even CEOs could very well take breaks between jobs to gain new perspectives. See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant".

1538 Dillow, Chris, "On Hester's Bonus", blog post, Sumbling and Mumbling, 27th Jan 2012, cited 19.5.2013, http://stumblingandmumbling.typepad.com/stumbling_and_mumbling/2012/01/on-hesters-bonus.html

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more easily prevented by competition authorities. Of course such turnover can partly be limited with *non-compete clauses* (NCC) in contracts, prohibiting working for a competitor, but these do not prevent buying a key person to quit.

But does the higher pay work to attract and commit top management talent? As critics say, the marginal few million don't add much to a person's "utility" in terms of the value of consumption potential. Most top managers are career people. They want to advance in their careers and continuously build their professional brands and three significant measures of this are the position they hold, the size of the organization they are running and the amount they get paid. When one starts one's career as an ambitious consultant or investment bank analyst, one might think it an appropriate objective to simply become CEO of any proper-sized company – and earn maybe $200k per year. But when one gets there after having spent years playing this career-game, how does one suddenly stop? We people need Games[1539] and easily become obsessed with them. Piling up wealth can therefore become a Game in itself for managers – or a score in their career Game.

However, it would make sense that top managers are more attracted to companies according to how interesting a working environment and management challenge they provide than monetary pay. Also in terms of their "career Game", this should be more important than monetary pay.[1540] And usually big companies or ones with good growth and development potential (that can afford to pay big salaries) tend to be such opportunities for the most status-oriented managers. So isn't such a great professional opportunity enough? Why do they still need to be paid so much?! As said, prestige should be a complementary form of reward to high monetary pay, rather than demand more of it.

The biggest factor seldom mentioned out loud is the sad fact that "power corrupts" and, as a Finnish proverb says, "opportunity makes a thief". And this is not to say that people applying for CEO positions would be corrupt and criminal-minded by nature. When in a position of much influence, all of us are easily tempted to pull things slightly our own way. The most important reason (suspects the author and some others, e.g. Ingham & Thompson 1994) for the high paychecks of CEOs is the agent-principal-problem.[1541] If you were a CEO, CFO or procurement manager in a company with $20 billion in revenues and individual partnership and supplier deals of hundreds of millions and you were paid $100k a year, how tempting would it be to choose a friend's firm as a supplier over another although the deal would be $50 million worse for your company – and then maybe receive a couple of million worth of favors from him on another occasion?

CEOs get paid lots so that opportunities of such additional income would have insignificant utility for them! When money's not an issue, the risk of losing one's reputation as a trustworthy and diligent manager becomes a relatively much bigger factor in determining one's courses of action.

No one can objectively screen the decision criteria CEOs use when making decisions (much is done on a gut feeling, derived from their broad experience base) and even if you got caught for e.g. favoring a friend, you'd only have that (relatively minimal) $100k annual salary to lose. This is also the logic of the "golden handshakes" that are written into CEO leadership contracts: It gives a CEO more to lose for not ending his term properly and gives him the incentive to ensure that the company is left in a running condition and that leadership is efficiently transferred to her follower when she quits. Think about the damage a malicious CEO could do to a company after e.g. ending up in a brawl with the board chairman? The opportunity cost of missing out on a few million dollar "handshake" – and his reputation – is likely to make him control his rage.

1539 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
1540 Competing over employees with better working conditions rather than higher pay could be made more profitable in a bigger number of industries by using work sharing incentives to ensure that there is always competition over employees regardless of the total demand for labor in that sector, as was explained in "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People").
1541 See also e.g. "3.2.3 Unionization and Strikes", "5.2.1 The Personal Nature and Incentive Traps of Academia" and "3.1.7 Incentive Trap for Grassroots-Level Innovation".

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One non-optimal choice alone is not catastrophic and paying CEOs well does of course not completely eliminate the risk of such opportunism and "corruption" – as many cases have shown, Enron as an almost cliché example – but it is definitely worth it for the company to pay $10 million extra to the boss to even slightly reduce the likelihood of him even subconsciously thinking about his own, direct financial advantage when thinking about what how to invest the billions of company money. At least that's the main reason why I would pay my CEO heftily if I were a company board chairman.

The pays of CEOs are good examples of *efficiency wages* that are meant to (1) decrease turnover, (2) improve the pool from which to select candidates and (3) avoid "shirking" – which making decisions that are non-optimal for the company clearly is.[1542] This could also be seen as a case where the fourth of Adam Smith's factors causing income differences is strongly at play: "the small vs. great trust which must be reposed in those who exercise them".[1543] However, all kinds of responsibility do not call for a similar "surplus pay". E.g. a surgeon or airline pilot is daily responsible for many people's lives and people place an enormous amount of trust in their professional skills and diligence. The difference is that there is no *moral hazard* that would allow them to benefit personally – or do favors for friends – by risking their clients' lives. Also, airline pilots have just as much their own lives at stake in doing their job diligently and severe mistakes made by surgeons seldom go unnoticed. Such risks might of course make people unwilling to do the job for very low pay, but those are again factors influencing supply and demand directly. The "shirking" efficiency wage mainly applies to people in charge of significant sums of other people's money and notable freedom of consideration in what to do with them.

Negative effects of *not* paying ridiculous sums of money to people in charge of vast amounts of other people's money can be seen clearly in politics. Politicians in democracies, like high-level executives in companies, command vast amounts of other people's money. So naturally, for any company, person or interest group it can be a very profitable investment to pay politicians for some favors (Congleton 2002) and in many cases this can be done quite legally, e.g. as campaign contributions. Considering the high profit potential in "political *rent-seeking*", it is rather surprising how cheap "buying" politicians is. This is referred to as the *Tullock paradox*. Some suggested explanations to the paradox are (1) the lack of trust between rent-seekers and politicians, which increases the risks involved in such investments, (2) competition between politicians (over who gets to be bribed) and (3) the adverse effects an excessively lavish lifestyle might have on one's political brand.[1544]

In this perspective, paying elected politicians millions in salaries might make sense as a means of reducing political corruption and improving democracy. Of course, one might argue that this would make elections and the acquisition of political posts very much "a business" and give those previously in charge a clear funding advantage in future elections. Another might argue back that it is a business already and that if it is going to be a business in any case, then it should rather be a business of acquiring the high politician salaries than the bribes for making even bigger income and wealth transfers for interest groups.

One more characteristic in which representative democracy differs from the corporate governance of companies, is the problem that the "board of directors" – the parliament – is almost always partly (at least the opposition) hostile towards the current "operative management team" – the ministers – and this conflict of interest might cause high pay (to only ministers or both ministers and the parliament) to have unexpected repercussions.

From these dilemmas (together with many others) we can mainly conclude that democracy sucks (corruption and bias into itself like a vacuum cleaner), especially in larger organizations, and things subjected to democratic decision making should therefore rather be minimized than maximized[1545], i.e. mainly limited

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1542 See also "8.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".
1543 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1544 "Tullock Paradox", Mr. University, Viewed 18.7.2013, http://mruniversity.com/courses/development-economics/tullock-paradox
1545 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

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to situations where private ownership does not work fairly or common ownership is otherwise absolutely necessary.[1546]

To return to ridiculously high CEO salaries, if you can come up with a cheaper way for a company to procure effective leadership while eliminating such chances of corruptibility than paying CEOs a few extra million, then it becomes realistic to start talking about reducing CEO salaries. The sad truth is that power corrupts. And absolute power corrupts absolutely. The other alternative is often closer surveillance, i.e. more bureaucracy, which starts making management processes much slower and inefficient – especially restricting creativity.

One good tool achieving both encouraging "upside potential" and incentivizing diligence is *equity-based compensation*, i.e. requiring the CEO to hold significant amounts of the company's stock (possibly even for some time after his term has ended), but the downside potential of an excessive equity position might make the CEO too scared for her personal finances and hence incapable of making risky decisions. And in the end, the CEO does not have superpowers against e.g. a stubborn company culture, unexpected trends or "black swans"/"X events" in the world market, which makes it unreasonable to require her to "put all her eggs in one basket." Substituting golden handshakes and options for equity compensation is not a complete solution.

One way to reduce the need for such high-paid managers is to reduce the *sizes* of companies. Surely, in some industries there are significant benefits of scale making large corporations the efficient option. But in many industries, there might be potential to reduce the power of large corporations by making competition work more efficiently by e.g. removing unnecessary subsidies and other artificial entry barriers.[1547]

Ha-Joon Chang does make a compelling case that the "managerial classes" in the U.S. and UK have managed to gain significant power, which allows them to maintain unnecessarily high salaries even on the expense of shareholders (Chang 2010, p. 155), despite declining managerial performance. One argument for this is that CEOs of companies (of similar size) in e.g. Japan and Germany are paid much more modestly (p. 152). But, as Chang himself notes, firms who "pay gratuitous benefits to failed CEOs", should eventually "be outcompeted by more hard-nosed competitors." (p. 154) If the firms intend to survive in global competition, their corporate governance needs to improve.

It is one possible hypothesis for the relatively ridiculously high pays of U.S. managers that shareholders – and the company boards of directors representing them – are simply so stupid or weak that they pay underperforming and exploitative CEOs big money when better and cheaper managers would be available for hire. And there might be a grain of truth to this.

But an even more plausible explanatory factor could be that shareholders and boards are "smart" enough to acknowledge how opportunistic and corruptible American business people are – or rather, the business culture is. E.g. Chinese, Korean and Japanese cultures are more strongly characterized by collectivism, which includes a strong sense of duty towards one's organization. Additionally, the high power distance imposes respect for authority and strict guards for personal integrity (Hofstede 1984; Hofstede & Bond 1988, p. 8). Risks of getting caught for fraud or otherwise unrespectable actions are not taken lightly. There are few gains that could justify "losing one's face". The stereotype of German culture is also one characterized by militaristic diligence and honesty.

By contrast, American culture has a strong tolerance for opportunism and putting individual priorities before those of any organization or social group (except for maybe one's closest family). Dedication towards one's career and jobs is more driven by individualistic ambitions than a sense of duty towards a group. This is not to say that Americans don't have a conscience or capacity for empathy, but it is not that often you hear

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1546 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".

1547 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies", "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue" and "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

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of American businessmen condemned for criminal crimes committing shame-related ritual suicides. In this kind of environment, much higher "efficiency wages" are needed to reduce risks of corruption of a manager in charge of billions of dollars of other people's money.

In this light, it might seem sensible for U.S. companies to hire cheaper and more reliable CEOs from Europe and Japan (which is likely to increase), but in many cases the cultural fit of the CEO with the rest of the company and American working culture as well as the CEOs existing contacts with other U.S. top managers (e.g. potential clients and partners) outweigh the lower pay required to offset opportunism. Top management is largely a relationship game. This network factor, of course, does again grant support also to Chang's "power of the managerial class" theory – but gives even less hope for removing that factor. And if a foreign manager is already well accustomed to American business culture and well networked, after e.g. having worked in an American firm, he's probably also acquired part of the morality in American business culture, making him just as much subject to opportunism as a U.S.-born CEO.

In terms of the whole economic system, the high pay of top managers and the difficulty to share top management work is not a sustainability issue, as top managers are usually very eager to invest in business-risk-carrying assets (including the company's own stock if compensation is equity-based).[1548] Also, it is not an issue of inequality of opportunity either, as anyone can acquire such leadership and management skills and compete for these positions if they so wish[1549]. If a lack of personal contacts prevents such advancement in certain tight knit circles, finally, one can become an entrepreneur and build a better company oneself to outcompete the one run by less competent managers (unless we have a monopoly industry in question, which should not be private in the first place[1550]). However, not even closely everyone would want such a one-tracked and stressful life.

1548 Although this of course also incentivizes them to talk overly positively about the company's situation and gives them opportunities to reap unearned profits with insider trading (which are big problems of asymmetric information).

1549 It is true that relationships and connections matter, but they can be developed too and it would be rather stupid of a board – probably a failure of corporate governance – to choose a CEO based on family ties.

1550 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

3.2.3 Unionization and Strikes

In short:

- *Labor unions have no incentive to look after the best interest of their "members".*
- *Their priorities are in maintaining their own existence, roles and power, which is best achieved by maintaining a sense of class conflict and keeping people insecure and dependent on the union and its insurance schemes as well as keeping them committed to one profession in order to maximize "customer loyalty".*

"Agency problems arise when the incentives between the agent and the principal are not perfectly aligned and conflicts of interest arise. As a result the agent may be tempted to act in his or her own interest rather [than] the principal's."[1551]

"Because the required adaptations can and do alter the positions, prospects, and power of established groups, conflict and resistance are intrinsic to the growth process." – Moses Abramovitz (1989, p. 354)

"The enemy is anybody who's going to get you killed, no matter which side he's on, and that includes Colonel Cathcart [my commanding officer]. And don't you forget that, because the longer you remember it, the longer you might live." – Captain John Yossarian, in "Catch-22" by Joseph Heller

"The side-stepping of collective bargaining will undoubtably be denounced as an attack on labor. It is important to note that it will appear so only to those who in their thinking have completely substituted labor unions for the workers, raising these instruments for improving the economic welfare of labor to the status of end in themselves. We should remember that an end in itself is nearly always a means for some end which one does not like to mention aloud, such as the maintenance of the position, prestige, and salary of a union bureaucrat." – Abba P. Lerner (1947, p. 317)

The current attempts to treat the symptoms of income insecurity and unfair income differences not only work against their (claimed) intentions, but also have other externality effects on the society. Strikes in for example the public transportation systems or other infrastructure services like harbors cause massive losses and waste – to employees, employers and customers alike.[1552] And as long as the long-term profit requirements of capital don't change, even the costs to employers eventually fall on employees or customers as lower wages or higher product prices. When strikes can be expected to occur, their potential losses are taken into account in making investment decisions and strike threats deter competition.[1553]

In addition to costs of lost productivity and increased insecurity, there can also be severe humanitarian costs for example when the medical industry strikes or sustains a constant labor deficit[1554] causing people to die in surgery queues. It might be time to recognize that blackmail and revenge are seldom very efficient or fair solutions.

The labor union institution (not so the organizations, but the whole concept and ideology) has managed to sell us a lot of assumptions, such as:

- Income security means fixed and permanent jobs.
- The fairness of wages (in each sector) is determined by the lowness of employer profits (in that sector).
- Solidarity is collective stubbornness and joining in on your friends' blackmail against everyone else.

1551 "Principal-Agent Problem", definition, Financial Times Lexicon, cited 12.05.2013, http://lexicon.ft.com/Term?term=principal/agent-problem

1552 As two recent case examples bordering on absurdity, a conflict between the air workers union (IAU) and a company providing in-flight meals (LSG) over which collective agreement to use almost halted most of Finnish air, rail and ship traffic in November 2013, and, in June 2014, Finnish dock workers went on strike (halting a big portion of exports and imports) for a day due to a personal letter from a Russian shipping company to a union representative.
- Luukka, Teemu, "Ateriafirma ajoi Suomen kuilun partaalle", Helsingin Sanomat, 15th Nov 2013, cited 19.11.2013, http://www.hs.fi/talous/a1384491036890
- Manninen, Tuomas, "AK:n lakon syy: 'Minua ei uhkailla!'", Iltasanomat, 11th Jun 2014, cited 10.6.2014, http://www.iltasanomat.fi/tyoelama/art-1288699710143.html

1553 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1554 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".

- The labor market is a class conflict between labor and capital and loyalty to your interest group (labor) is a fundamental value.
- Companies exist to provide employment.

In this process – and to make the threats it preaches a reality – it has managed to create similar cartel institutions on the employer side as well, creating a bilateral monopoly.[1555] A prime case example of this kind of universal corporatism is the Finnish tripartist system with its "comprehensive income political negotiations" that bring together the state and the central labor and employer unions (monopolist nationwide unions with the unions of different professions and industries as their members or "clients") to bargain over wages and general benefits in collective agreements. When asked about obstacles for an employer to increase flexibility in work contracts, a Finnish politician mentioned the possible disapproval of others in the "employer society", who might consider this to put pressures on them to make similar allowances for their employees. Anyone with any understanding of how a market economy works should have his alarm bells ringing at this point. Isn't the whole purpose of companies competing with each other over customers and employees to force them to implement better and better practices – including working conditions better matching their employees' preferences?[1556]

The Finnish system is practically a system of a legal bilateral cartel and a monopoly state. Officially, there is practically no labor *market* in Finland: there is income *politics* and education *politics*. In practice, however, (luckily) many industries do not follow blindly the labor legislation and collective agreements and this works somewhat well when such disobedience is *clearly* in the interest of both employees and employers in that industry.

Let's ask the basic economic question: What incentive does a labor union have to serve the actual interests of its members?

> "Agency problems arise when the incentives between the agent and the principal are not perfectly aligned and conflicts of interest arise. As a result the agent may be tempted to act in his or her own interest rather the principal's." ... "Why can the agent get away with not acting in the best interest of the principal? A first possible explanation is that the cost to the principal of removing or punishing the agent is too high relative to the benefit." ... "A second, more widely applicable, explanation is the presence of information asymmetry." (Financial Times Lexicon, Principal/Agent Problem)[1557]

Profit-seeking corporations need to compete over customers, labor and capital and at least have some kind of governance structure for shareholders to influence the company's major strategic decisions. A corporation that is no longer the best at serving customer needs by efficiently using labor and capital resources no longer does sufficient profit on equity. As a result, it won't receive additional investments and it is eventually bankrupted or liquidated in another way. A clear incentive exists for the board to hire competent management, and the management has strong incentives to do their best to keep the company profitable and maximize shareholder value – not only direct monetary incentives but mostly in terms of their career progress and professional brand.[1558]

But what is a labor union's incentive to do what's best for its members? None, really. It has some incentive to ensure it maintains the *perception* that its existence is useful – or at least that individual employees are better off being members than "outsiders". However, the more threatening and insecure the situation looks for workers, the bigger the perceived value of union membership. Hence, labor unions have an interest in keeping the economy unstable and unpredictable and hence income security (excluding the effects its own unemployment insurances provide) low. The protection granted by unions is akin to the protection granted by the mafia in return for "protection money" ("*pizzo*" in Italy) – it largely (though not only) protects from the insecurity caused by the "protector" itself.

The union definitely has no interest in trying to reduce the power of an employer union "opponent" (note: not the same as competitor), as the existence of such an opponent significantly increases the perceived added value of belonging to a union for employees and the "cost to the principal" (employee) "of removing or punishing the agent" [1559] (union).

It would be in the best interest of all workers – both in terms of economic security and their bargaining positions – to maximize individual choice in how much one can work and mobility between regions and professions by e.g. making part-time work more profitable for employers to offer, lowering employers' threshold to hire new people (reduce recruiting risks), reduce the power of university degrees in the labor market[1560] and remove other

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1555 Just like empires and dictatorships throughout the ages, it has grasped the wisdom that the best way to unify people is to create a common enemy (a massively powerful Soviet Union for the United States, The Jews and Communists for National Socialists, the "barbarians" for the Roman Empire, etc.)

1556 See: "1.1.9 Companies as Competing Organizational Forms".

1557 "Principal/Agent Problem", Financial Times Lexicon, cited 13.5.2013: http://lexicon.ft.com/Term?term=principal/agent-problem

1558 See: "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power".

1559 "Principal/Agent Problem", Financial Times Lexicon, cited 13.5.2013: http://lexicon.ft.com/Term?term=principal/agent-problem

1560 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education

restrictions on education and retraining opportunities. But unions are categorically opposed to all of these – as they are not in the interest of the unions themselves, as these would surely decrease their "customer loyalty".

Also, unions are most eager to maintain the perception of a conflict between economic security and flexibility. (Keune & Jepsen 2007) When asking employer and labor union representatives in Finland, both sides would want more flexibility, but it seems that there isn't enough "trust" between the parties that the other party would not "abuse" such freedoms.[1561] Could maintaining this "mistrust" be in the interest of the unions?

Also, as explained in "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)", wage regulations and collective bargaining both raise the interest rate at which inflation remains stable, raising the profit requirements – and therefore the income share – of all capital investments[1562] (when the economy is not at the zero lower bound[1563]). If unions were really fighting for increasing the income of labor on the expense of profits (as the popular perception goes), their strategies are utterly counterproductive. But it can seriously be questioned whether unions really want to reduce the income share of capital. After all, they themselves – with their unemployment funds and other investments (including real estate possessions) – are some of the most significant "capitalists" in the economy.

While individual unions try to maintain the perception of being useful to their members, the central labor market organizations' primary focus is on maintaining the comprehensive collective agreement system on which they are dependent and to remain useful in the eyes of their member unions who pay them membership fees. And this they achieve best by helping the member unions maintain their status and by promoting a sense of class warfare. The central labor market institutions – those of labor unions and those of employer unions – are practically on the same team. Both of their roles depend on the collective agreements and comprehensive income policy negotiations and therefore they both strive to protect this institution by any means. Their relationship is rather strongly symbiotic – it takes two to tango.[1564]

However, there is no *competition* (over clients, i.e. workers or companies) or threat thereof: Each union is a monopolist in its field.

It is clear that the labor market institutions – like many government-created foundations and other agencies – are not fully serving the long-term benefit of the interest groups they were originally intended to serve, at least not anymore if they ever were. As happens with many institutions that emerge in memetic evolution, their primary focus has become the preservation of their own existence, funding, power and status – and often a major part of it is maintaining the problem that is the justification for their existence.[1565]

In many countries, the role of unions is not limited to bargaining over wages and other employment terms. They have an incentive to strongly interfere in state politics – including pushing for additional transfer payments and taxation changes to compensate e.g. for wage losses due to "efforts" to maintain international competitiveness[1566] in export industries (Cameron 1978, 1258).[1567] These, together with the shows that they put on with their opponents, serve to provide new "victorious battles" – "feathers in their hats" – that they can use to market themselves to their "clients". Unions and employer organizations are not under direct democratic control either and even if they were, the direct power such institutions have in the decision making in state politics significantly erodes the (already questionable) impact of parliamentary elections, which we like to think is the primary democratic influence mechanism (not to say that such representative democracy would be an unproblematic institution itself either[1568]).

Finland is one of the least corrupt nations in the world if we define "corruption" as "bribing officials". But it is

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to Maximize Flexibility, Mobility and Adaptability".

1561 Interview's conducted by the author.

1562 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1563 See: "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

1564 In the publication event (6th Jun 2013, at Adams hall, Erottajankatu 15-17) of "Umpikujassa – Aika on ajamassa ammattiyhdistysliikkeen ohitse", a report, questioning the existence and role of the labor union movement, published by the Libera Foundation, Ilpo Kokkila, the head of the central employer union EK, first directly described EK as an employer cartel created to oppose the labor union cartels and at the end of the discussion emphasized the value of this mutual opposition setting ("vastakkainasettelu") and that "the existence of the labor union movement is realism and should be seen as a resource."

1565 This institutional development is very similar to how the development of the U.S. army during the Cold War was dependent on the perception of the Soviet Army as a massive, advanced and formidable threat (see: "3.3.5 Resource Wars and Sustained Political Instability"). Arms races tend to be (at least) two-sided. The U.S. Army and CIA (as institutions and also their generals and officials individually) have no interest in actually reducing the threat the opponent poses, as this opponent is the justification for their own existence. Class warfare and physical warfare are not very different in this sense. Investments into weapons look very productive when looking at it from one side's perspective at a time: when the alternative is that only the enemy side is armed. The best way to unite people is to create a common enemy. More on such institutions preserving their enemies and other justifications of existence in "5.1.4 Institutional Interests – Rogue Agents without a Principal".

1566 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

1567 "More frequently than not, labor confederations involved in such cooperative programs [of wage restraint to maintain international competitiveness] have felt compelled to use their access to government to obtain increments to the disposable income of their members; thereby compensating them for wage sacrifices." ... "[T]he existence of strong labor confederations tend to produce the same effect – an unusually large increase in publicly funded income supplements." (Cameron 1978, p. 1258)

1568 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

incredibly heavy on "structural corruption", including the use of power positions for the gain of certain interest groups[1569] – and maintaining the power positions of certain institutions.

It is very important to remember that in this case the "agents" are not the persons involved, but the organizations, and even more so, the whole *ideological* union institution! If we ask labor union employees, it might well be that every one of them honestly believes in the union being necessary and value-producing for its members and the country's workers in general. But the question we need to ask ourselves is, if there was a solution to unfair income differences[1570] and income insecurity[1571] that worked better than the unions' current black-mailing and rigidifying schemes, but that did not involve at least as big a role, as much political power and as much funding for unions as they currently have and receive, would the unions be pushing for or supporting it? Honestly? No one wants to innovate themselves out of existence.[1572] [1573] Just like oil companies are buying out patents on renewable energy solutions to control when these solutions go on the market,[1574] [1575] labor institutions have every incentive to block social innovations that might threaten their current role and positions of power.

Interestingly, no major Finnish political party is opposed to this tripartist system, but instead, this same artificial conflict between capital and labor is an inherent part of Finnish state politics. The social democrats are linked with the major labor unions, while the National Coalition Party – traditionally considered the Finnish "right-wing" party – is considered strongly "pro-business". And "pro-business" is practically the opposite of "pro-market".[1576] As Lindy Davies writes:

> "While entrepreneurs praise the theory and principle of the free market, in their own businesses they strive to limit competition as much as they possibly can."[1577]

And by "entrepreneurs" Davies is not so much referring to startup entrepreneurs as to owners of incumbent businesses in a dominant market position. That's just one reason why businesses should not be given any direct power, nor blackmailing power, in politics – and neither should labor unions. Of course their experts' assessments of the impacts of different policies ("lobbying") can be utilized.

Arthur Pigou's assumption of the necessity of unionization was based on extremely low labor mobility (which would not be compatible with today's turbulently progressing global economy in any case) and monopolist employer positions of companies:

> "Pigou advocated organization as producing a better wage system, even though this tended to create a bilateral-monopoly situation in which wages were indeterminate. He concluded that open competition was conducive to situations in which workers received less than the marginal value of their labor to their employer. This was largely because labor was not very mobile and employers held most of the market power. By contrast, if labor was organized, it would generally force wages up to the value of their net marginal productivity, but not higher, for that is all employers would be willing to pay." (Hovenkamp 2009, p, 643)

Pigou believed that both sides in the labor market having a central negotiator representing them would also reduce bargaining costs compared to having a bilateral monopoly of many participants.[1578]

In the current situation, however, central labor unions tend to be *maximizing* bargaining costs to justify their

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1569 Laukkanen, Erkki, "Onko meillä rakenteellista korruptiota?", Transparency International – Finland, cited 12.5.2014, http://keskustelu.transparency.fi/onko-meilla-rakenteellista-korruptiota/

1570 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1571 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1572 See: "3.1.7 Incentive Trap for Grassroots-Level Innovation".

1573 One case of how a central labor unions utilized rising unemployment rates to seize more power for itself can be found from the Netherlands: "In the seventies the Dutch Government, despite new legislation granting employers' and employees' organizations freedom of bargaining on wages, continued to infer in the process of wage base determination.

As a reaction to these pressures the Foundation of Labour sought a way to recover its responsibilities in the central determination of the wage base. In 1982, prompted by fast growing unemployment rates, the organizations in the Foundation concluded on an agreement called 'Central Recommendations Regarding Aspects of an Employment Policy' (Centrale aanbevelingen inzake aspecten van een werkgelegenheidsbeleid; later on this agreement is referred to as the 'Wassenaar Agreement')." (Wilthagen 1998, p. 3)

1574 "Who killed the electric car?" documentary, Sony Pictures Classics.

1575 Lane, Eric, "BP-DuPont Biofuels JV Takes Gevo to Court", blog post 15th Feb 2011, viewed 26.6.2013, http://blog.cleantechies.com/2011/02/15/bp-dupont-biofuels-jv-takes-gevo-to-court/

1576 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1577 Davies, Lindy, "LT Essays #3: Capitalism", cited 19.6.2013, http://www.landreform.org/es3.htm

1578 "Second was the situation in which one bargainer was an agent acting on behalf of a group but with authority to offer a single price that was binding on the group. An example of this would be someone authorized to bargain on behalf of a corporation or labor union. In these, the problems were the same as in the traditional bilateral monopoly. In the final set, however, the agent was bargaining on behalf of 'persons possessed of independent volition, and subject to the condition that any one of them, to whom the contract agreed upon appears less favourable than no contract at all, will not carry it out.' From this observation Pigou would later conclude that collective bargaining agreements in labor disputes where the bargainer had the authority to make a binding agreement were essential to the functioning of the labor market." (Hovenkamp 2009, p. 645-646)

own existence, instead of minimizing them. A typical case example is "the right to three days of employer-paid training" that was nailed into the collective frame agreements between the Finnish central labor market organizations at the final stages of negotiations. This then provided over a year of work in debating over what that actually meant, giving the organizations a chance to show that they are doing something seemingly "valuable" for the interest groups they claim to be representing.[1579] [1580] For whom was this bargaining process productive? At least it provided employment for the unions themselves and more future business for labor market lawyers.

Just as the institution of academic economics is trying to keep itself employed and ensure its funding by maintaining the illusion that it would have some kind of incentive to produce societal innovations,[1581] the labor market organizations are working night and day to keep themselves employed in negotiating other people's work contracts.

But, as said, Pigou's assumption is based on very low worker mobility. In Pigou's days, the beginning of the 20th century, the idea of a person remaining in one job for the rest of his life was feasible. Pigou emphasized how imperfect knowledge also resulted in people educating themselves inefficiently for different tasks:

> "[Pigou] wrote at some length about the problem of ignorance, or imperfect knowledge, which he believed led society to produce an initial distribution of the workforce that was socially inefficient. For example, ignorance operates 'by impairing the initial distribution of new generations of workpeople as they flow into industry.' Pigou's argument was that once people were committed to and trained in an occupation where the supply was too great in relation to other occupations, the cost of redeployment could be very high." (Hovenkamp 2009, p. 639)

Pigou's primary suggestion was lowering the "costs of movement" through education and information, while Ronald Coase suggested that the government should reduce the need for such movement ("transactions") by allocating resources initially more optimally[1582] – which in the case of the labor market could mean controlling the number of education positions available.

In today's world of fast changing technologies and consumption preferences,[1583] even the government cannot predict what kinds of skills will be needed e.g. in 15 years' time. Removing the bilateral monopoly situation by increasing worker mobility and loosening the excessive power academic degrees have on the labor market[1584] would be a much fairer and sustainable solution to this problem. The internet also makes information and forecasts on the employment opportunities and wages in different fields far more accessible to people than 100 years ago. Additionally, when an oversupply means *less work* available to every individual, instead of a bigger *risk* of unemployment[1585], people are likely to be better at taking this into account in decisions regarding their education. People are much less rational with risks.

Removing the rights to strike, collective bargaining and power to restrict education opportunities does not make professional organizations in general a completely redundant concept. Firstly, with required competences in different industries becoming yet more complex and fast-evolving and with an increasing emphasis on the importance of connections and relationships, organizations facilitating networking and efficient re-education within fields and across can provide significant added value.

Secondly, as Arthur Pigou noted, bargaining itself is not a very productive activity.[1586] (Hovenkamp 2009, p. 640-641) "Collective agreements" can take the form of templates that can be used as the basis of negotiating individual contracts in order to reduce the work required to e.g. decide over every employment benefit and confidentiality detail separately with each employee – like the standardized contracts used e.g. in the development projects of IT systems and digital services or the GNU license. But they should not restrict the kinds of contracts and terms that *can* be made. Such professional service institutions can ensure that employees take e.g. IPRs of their work into consideration in their contracts and provide legal services in ensuring that the contracts employees eventually make are followed.

1579 "Kolmen päivän koulutuskiista on vihdoin sovittu", Taloussanomat, 7th Mar 2013, cited 31.3.2013, http://www.taloussanomat.fi/tyomarkkinat/2013/03/07/kolmen-paivan-koulutuskiista-on-vihdoin-sovittu/20133595/12

1580 Luukka, Teemu, "Kolmen koulutuspäivän hautajaiset", Helsingin Sanomat, 9th Mar 2013, cited 31.3.2013, http://www.hs.fi/politiikka/Kolmen+koulutusp%C3%A4iv%C3%A4n+hautajaiset/a1362796218451

1581 See: "5.2.3 The Economics Discipline at Threat?".

1582 "Pigou's solution to the problem of imperfect knowledge was, if anything, more 'private' than Coase's. Coase would have used the state to assign the right to the person who placed the higher value on it; Pigou would have used education and information to reduce this particular cost of movement." (Hovenkamp 2009, p. 638)

1583 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1584 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability" and "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".

1585 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1586 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

If the labor union institution truly wants to survive sustainably, it needs to be able to reinvent itself and become such an *adaptability-increasing* entity from being yet another self-preservation-focused change resistance machine. As explained in "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility", hardness is not strength – rigidity does not provide sustainable security. Adaptability and flexibility are the sources of true robustness (or even antifragility), sustainability and longevity. And that also applies to the unions themselves.

In countries, where labor legislation allows for competing unions, one way to forward labor market change on a voluntary basis could be establishing a "generalist union", which aims at maximizing mobility between fields and people's chances to do part-time work as well as minimizing involuntary layoffs without restricting companies' possiblities to reduce purchased labor.[1587]

In this process of self-reinvention that labor unions need to go through, the rhetoric and language in the labor market need to be refreshed as well. For example, "solidarity" could be redefined from "joining in on your fellow workers' blackmail against everyone else" to "giving everyone – including the currently unemployed and the ones working in volatile industries – a chance to participate in the labor market according to their skills and needs – by giving them a share of your own work if necessary".

How about "mosh pit solidarity"? When a person falls down in a mosh pit during a rock concert, people react by making room and helping the person up as fast as possible before the raving and tackling continues – not by clinging to their friends harder and ramming over everyone else with their elbows up, especially not the ones on the ground.

Also, a little bit of competition between such professional associations would surely create more innovative services better matching the needs of today's labor market and work life.

"Social responsibility" (in the context of firms) could be redefined from "abstinence from labor reductions" to "taking into account the desperation of each individual's economic situation and other employment opportunities available to her in determining whom to cut work from the most". This could well be compatible with the laws of supply and demand, making such considerations actually a source of competitive advantage for companies, and not only in terms of image benefits – if we only made sharin work profitable.[1588]

Amanda Palmer finished her inspiring TED Talk calle "the art of asking" as follows:

> "I think people have been obsessed with the wron question, which is how do we *make* people pay fo music. What if we started asking, 'how do we le people pay for music?'"[1589]

And we should ask the same question in the case o labor. Essentially it is people who buy labor from eac other through products and services. Companies ar just competing organizational forms for arranging th production.[1590] If labor unions were really looking after th benefits of people willing to work and be paid for work they should be asking how buying labor – even smal amounts of it – could be made as easy as possible. Instead they are obsessed with the fairly short-term-oriented question of how they can force competing organizationa forms to continue buying the same amounts of work the have been buying before – regardless of whether that work (the products and services) is deemed necessary anymore – and how they could require or blackmail them to pay more for it (nominally).

If unions can be considered well-intentioned, their activities are an extreme case of *iatrogenics* – harm caused by the healer. (Taleb 2012, p. 111)

> **"War collectivism showed the big-business interests of the Western world that it was possible to shift radically from the previous, largely free-market capitalism to a new order marked by strong government, and extensive and pervasive government intervention and planning, for the purpose of providing a network of subsidies and monopolistic privileges to business, and especially to large business, interests. In particular, the economy could be cartelized under the aegis of government, with prices raised and production fixed and restricted, in the classic pattern of monopoly; and military and other government contracts could be channeled into the hands of favored corporate producers. Labor, which had been**

1587 See: "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs".

1588 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

1589 Palmer, Amanda, 2013, "The art of asking", TED Talk, viewed 24.6.2013, http://www.ted.com/talks/amanda_palmer_the_art_of_asking.html

1590 "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

becoming increasingly rambunctious, could be tamed and bridled into the service of this new, state monopoly-capitalist order, through the device of promoting a suitably cooperative trade unionism, and by bringing the willing union leaders into the planning system as junior partners." – Murray N. Rothbard, War Collectivism in World War I (1972, p. 66-67)

3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life

In short:

- ***While, during the last century, women have moved from household work into the workforce, men have not taken more time off to spend with their families.***
- ***Many people would already want to spend more time off (e.g. with their families or on their hobbies) if it did not endanger their income security and career progress.***
- ***Meanwhile, involuntary unemployment is a significant hazard to people's self-esteems and psychological health in general.***

"The traditional American family followed the basic arithmetic of two adults and two jobs – the ratio of resources to demands being in balance, with each adult holding one job, either breadwinning or homemaking. But in the dual-earner families of today, the same two adults share *three jobs,* two as breadwinners and one as homemaker." ... "[T]he number of jobs and their cumulative demands, has increased dramatically, far outstripping the adult resources." – Kathleen Christensen & Barbara Schneider, Workplace Flexibility: Realigning 20th-Century Jobs for a 21st-Century Workforce (2010, p. 1-2, *italics* in original)

"Probably one of the worst things in our society is men who father children and don't raise them." – Jonathan Haidt[1591]

"What doesn't kill you, f*cks you up mentally." – Anonymous

1591 53:59->, Haidt, Jonathan, "The Rationalist Delusion in Moral Psychology", lecture, viewed 20.2.2014, http://www.youtube.com/watch?v=kHwQswRVaU

In the first half of the 20th century, futurologists predicted that by the end of the century, people would hardly be working at all – maybe a few hours per week – and robots would be doing all the nasty work for us. There has been no sight of even a noticeable move towards this direction.[1592] Average work hours might have decreased during the past 50 years, but in the past 20 years in the Western world, the real work hours of the working population and the stressfulness of work in general have instead increased if we exclude strongly unionized and regulated markets. This stress is further increased by a constant fear of unemployment. This stress is also making people more and more dependent on psychoactive medication such as antidepressants, sleeping pills and performance enhancers.

A lot of what is diagnosed as depression in Finland is rather work fatigue. Professor Petteri Pietikäinen hypothesizes that "work fatigue" is avoided as a term in Finland for the political reason that it might evoke critical discussion about structures and working environments.[1593] Another reason for this confusing framing, which hides a significant cause, is that "depression" is a legally valid reason for paid sick leave, while "work fatigue" is not.[1594]

Excessive stress also has serious implications for physical health – as does a lack of physical exercise, which might be imposed by involuntarily long working hours. Stress is also shown to catch on from parents to their children and some researchers see the stressful image of working life that parents portray to be a big factor in the growing "fear" of working life among young people.[1595] [1596]

Meanwhile, unemployment persists and causes marginalization from society, deep depression, alcoholism, drug abuse and other mental illnesses, while this together with economic insecurity and growing pressure in work life is also suspected to have contributed to rising suicide rates.[1597]

Social withdrawal by unemployed young Japanese adults has become so common that the phenomenon has its own term, "hikikomori".[1598] A related concept launched by professor Masahiro Yamada of Tokyo Gakugei University, is that of "parasite singles": young adults who live with their parents without earning any income of their own.[1599] These phenomena can also be partly blamed on the extremely competition-oriented education system, which – with its pass-or-fail ideology – divides students clearly into winners and losers, demotivating the ones who don't qualify to the top.[1600] But the work life also plays its part, as some Japanese young people are even refusing promotions just to be able to have more free time.[1601]

Another major shift in Western countries during the 20th century was women becoming a significant part of the workforce. Christensen and Schneider consider homemaking one "job" and hence families are now sharing three jobs among two parents, while before they only had two jobs to do:

> "...American families with children are now headed by dual-earner parents or single-parent, single-earner parents. But as the American family has changed, the American workplace has not, largely retaining its traditional structure." ...
>
> "The resulting one-size-fits-all workplace, with its full-time, full-year, year-in and year-out jobs, as well as its rigid, linear career paths, remains the norm of American workplaces, resulting in a profound structural mismatch between the way work is organized and the need of a changing workforce." ...
>
> "By the late twentieth century, however, the one-size-fits-all workplace that once so well fulfilled the needs of American workers became profoundly *mismatched* to the needs of the increasingly diverse and varied U.S. workforce." (Christensen & Schneider 2010, p. 1-2)

1592 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1593 Ovaskainen, Teppo, "Professori: Suomalaisten masennus on oikeasti työuupumusta", Uusi Suomi, 21st Aug 2013, cited 22.8.2013, http://www.uusisuomi.fi/kotimaa/61674-professori-tasta-vaietaan-suomessa-masennus-johtuu-yleensa-tyosta

1594 By no means are we trying to suggest that people should be entitled to paid sick leave for work fatigue. That would be quite an unjust incentive trap for employees and a massive recruiting risk for employers – as is the whole employer-paid sick leave system in general (see: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs").

1595 According to one study published by Taloudellinen Tiedotustoimisto, 46 % of young (15-21 year-old) women and 31 % of young men consider worklife to be scary, while 49 % and 35 % respectively are afraid of unemployment.

– "Nuoret pelkäävät sekä työtä että työttömyyttä", Taloussanomat, 18th Mar 2009, cited 8.4.2013, http://www.talouselama.fi/uutiset/nuoret+pelkaavat+seka+tyota+etta+tyottomyytta/a2075544

1596 In a 2010 study in Finland, over a half of young people were afraid of their ability to cope in the future worklife. Meanwhile values have changed with a higher emphasis on environmental concerns and the value of free time.

– "Nuoret pelkäävät juuttuvansa uraputkeen", Uralehti, 22nd Sep 2010, cited 8.4.2013, http://www.uralehti.fi/artikkelit/nuoret-pelk-v-t-juuttuvansa-uraputkeen

1597 Castles, Simon, "The suicide generation", The Age.com.au, 23rd Nov 2004, cited 4.6.2013, http://www.theage.com.au/articles/2004/11/22/1100972322996.html

1598 Foreman, William, "Young Hermits – Hikikomori in Japan", Global Michigan, News, 12th Dec 2012, http://global.umich.edu/2012/12/young-hermits-the-hikikomori-of-japan/

1599 Takahashi, Hiroyuki & Voss, Jeanette, 2010, "Parasite Singles – A Uniquely Japanese Phenomenon?" Japan Economic Institute, feature article, cited 10.9.2013, http://www.jei.org/Restricted/JEIR00/0031f.html

1600 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

1601 On how this is wasting a lot of talent and hampering structural adaptation, see: "3.1.3 Structural, Friction and Classical Unemployment. NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

Among those surveyed in the National Study of the Changing Workforce conducted in the U.S., "the majority of employees feel they do not have enough time for themselves, their partners, or children, and are dissatisfied with their jobs." (Christensen & Schneider 2010, p. 10) In their article "Work Hours Mismatch in the United States and the Household, Income and Labor Dynamics study in Australia", Robert Drago and Mark Wooden show mismatches of actual and desired working hours in both directions. Of the two countries, the problem is more severe in the U.S. where "workers who spend long hours at their jobs would prefer to work less and workers who work few hours would prefer to work longer". Unions[1602] don't seem to be concerned with overwork although they strong oppose "underemployment". (Christensen & Schneider 2010, p. 12)

In a Finnish study by the pension insurance company Varma and consulting company Odum, 8 % of 18-29 year-olds were afraid they might lose their ability to work – mainly due to psychological pressure – in the next two years.[1603]

Avery and Zabel (2001) refer to the findings presented in Chris Tilly's book "Half a Job: Bad and Good Part-time Jobs in a Changing Labor Market" (Tilly 1996):

> "In the United States the rate of involuntary part-time employment has increased over the past two decades even when the economy has expanded. In addition, Tilly added that many Americans (as many as 3 million workers) are unable to find part-time jobs and are involuntarily full-time workers." (Avery & Zabel 2001, p. 51)

In the year 2000 over a half of Finns surveyed by Tilastokeskus (Statistics Finland) partly or totally agreed with the statement "I could take a shorter working time instead of an equivalent raise."

And yet politicians persistently insist that unemployment is a result of there *not being enough work,*[1604] while there clearly is lots more work than many people would prefer to do if choosing to work less would not endanger their career progress and income security.[1605] And paradoxically, the biggest obstacle to the economic growth they are calling for in order to create that work is this same mismatch in earning opportunities and propensity to spend.[1606]

Would it be about time to consider the idea that maybe unemployment is not a matter of there not being "enough work", but it *not* being *profitable to let everyone participate* in the work that is available?

If people were given the opportunity to work less now and it would be made less profitable to save for some potential future free time, the risk of burnouts would likely decrease significantly. Burnouts and fatigue also cause significant costs for companies as reduced productivity and higher employee turnover, which results in increased recruiting and training costs. The effects of fatigue and overload on quality are especially noteworthy in service sectors. (Cordes & Doughterty 1993; Oliva & Sterman 2001) But with high recruiting risks caused by rigid labor legislation and collective agreements,[1607] it is often cheaper for companies to bear such risks than recruit new employees preemptively to share the load.

Increasing the opportunities for free time would not necessarily slow down people's learning curves significantly, as people enthusiastic about their jobs will spend part of that free time studying relevant matters or applying their skills on a voluntary basis. On the contrary, fresh perspectives are likely to increase productivity especially by facilitating more creativity.[1608] [1609] But, here, there is of course lots of variance between types of work, and room has to be left for companies to invent the most efficient ways to arrange work in each field and profession.[1610]

Even more crucially, when everyone has a chance to participate in meaningful work – to have a significant role in society – we will have a population with far stronger self-esteem and mental resilience. And self-esteem is the fundamental building block of both happiness (a worthwhile life) and productive capabilities.[1611]

Research also suggests that many psychoactive drugs are in themselves not as chemically addictive as is commonly believed. Instead, a lack of meaning, belonging and other inspiration in one's life is likely a more significant cause

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1602 See: "2.2.3.1 Collective Bargaining – 'Blackmail Is Solidarity'" and "3.2.3 Unionization and Strikes".

1603 "Moni nuori pelkää musertuvansa töissä", Taloussanomat, 20th Oct 2009, cited 8.4.2013, http://www.taloussanomat.fi/uutinen/2009/10/20/moni-nuori-pelkaa-musertuvansa-toissa/200922283/243

1604 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1605 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

1606 See: "3.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

1607 See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs".

1608 See: "3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity".

1609 Sagmeister, Stefan, 2009, "The power of time off", TED Talk, viewed 8.3.2013, http://www.ted.com/talks/stefan_sagmeister_the_power_of_time_off.html

1610 See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant".

1611 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

and sustainer of drug addictions. The drugs (and fellow users) are more of a replacement for social contacts and other life content and a way to suppress or numb the psychological pain resulting from such spiritual deprivation.[1612] [1613](Alexander & Hadaway 1982; Alexander 2001; Samson & Pretty 2006) The same applies even more to video game and gambling addictions. Giving people meaningful opportunities to participate in the society is therefore possibly also a better way to "fight the war on drugs" than illegalization and threats of punishment.

Kelly McGonigal presents a strong case that stress in general is not harmful. It only turns harmful when the stressed people *consider their stress to be* harmful. And another study she presents yields further evidence that simply people's *attitude towards stress* can significantly influence both their mental and physical responses to the same stressful situation.[1614] But, doubtlessly, different compositions of challenges and pressure can be better at inducing constructively exciting stress versus frustrating, depressing stress and despair. People willfully put hours of effort into progressing in games, but despise many chores requiring far less effort and involving less uncertainty and social pressure.

These factors together make a strong case for adopting more of a *game design approach* to our economic system[1615] – and equally so to the education system.[1616]

A number of studies and e.g. self-determination theory (Deci & Ryan 2008; Pink 2009; Rock 2008)[1617] suggest that people are far more likely to take a positive attitude towards challenges that they (feel they) have chosen themselves. Giving people more choice in how much to work during their careers – regardless of their choice of profession – is certainly a step towards more joyful, healthy "stress" from the types of stress inducing mental illnesses and burnouts.

1612 Kaaro, Jani, "Kolumni: Addiktiot ovat korvikkeita hengen köyhyydelle", Helsingin Sanomat, column, 17th Feb 2014, 6.4.2015, http://www.hs.fi/tiede/a1392605099085

1613 "Addiction in the modern world can be best understood as a compulsive lifestyle that people adopt as a desperate substitute when they are dislocated from the myriad intimate ties between people and groups – from the family to the spiritual community – that are essential for every person in every type of society." (Alexander 2001, p. 1)

1614 "People who experienced a lot of stress, but did not view stress as harmful were no more likely to die. In fact, they had the lowest risk of dying of anyone in the study – including people who had relatively little stress. Now, the researchers estimated that, over the 8 years they were tracking deaths, 182,000 Americans died prematurely, not of stress, but from the belief that stress is bad for you." ... "And participants who learned to view the stress response as helpful for their performance, well, they were less stressed out, less anxious, more confident – but the most fascinating finding to me was how their physical stress response changed."
– 2:11-> & 5:40->, McGonigal, Kelly, 2013, "How to make stress your friend", viewed 8.12.2013, http://www.youtube.com/watch?v=RcGyVTAoXEU

1615 See: "2.1.6 Conclusions – How about a Game Design Approach?".

1616 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

1617 See also: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated

In short:

- *Retirement is a **mostly outdated institution** from a world **where work was mostly** physical activity. **Retirement as a one-off** event is even **dangerous for one's psyche** and health.*
- *If people had the **realistic chance to work** less when they **wanted to and gradually** phase out their working **(and weren't** forced to save for **their retirement), "the** retirement age" **could become an obsolete** concept.*

"One of the most hotly debated issues today, in both Europe and in the US, is how societies should collectively make provision for the increasing numbers of elderly." – Angus Deaton (2005, p. 3)

"Typically, in America, we've divided our adult life up into two sections. There's our work life where we are productive and then one day, boom, we retire." ... "In the Okinawa language there's not even a word for retirement. Instead there's one word that embues your entire life and that word is 'ikigai.' And roughly transalted it means, 'the reason for which you wake up in the morning.'" – Dan Buettner[1618]

"A positive risk-free interest rate is the economic aspect of the 'exhortation' Keynes described to 'cultivate the pleasures of security and anticipation' or, in my language, to mortgage the present moment to the future, to choose security, or a semblance thereof, over freedom." ... "For the past age, we have had an incentive to choose work over leisure, even when we didn't need the money, because interest promises that our money will be able to buy even more leisure in the future. By abstaining from pleasure and leisure – and indeed, all too often, from our best impulses – we might even attain the economic version of heaven: early retirement. But as often with religion, the promise of heaven only serves to keep us in chains." – Charles Eisenstein (2011)

"People don't resist change. They resist being changed!" – Peter Senge

With the baby-boomer generation closing in on retirement age and birth rates dropping below two children per female in the developed world, there has been lots of debate over raising the retirement age to avoid a massive increase in the "dependency ratio". Yet, the general public seems to oppose this idea strongly. For people in their late 50s this is understandable: They have been expecting to retire soon and have probably been planning that retirement for a long time. A sudden change in plans and benefits would of course be disappointing.

But for younger people than this, the explanation doesn't quite apply. How can people in their 20s, 30s or even 40s know how they are going to feel about working at 65? If they think they can, what does that tell about how fed up they are with their current worklife already? Probably that they already have much more work to do than they would actually want. People really can't know for sure how they will be feeling in 60 years – unless they plan on spending their 30 years convincing themselves: "I'll be sick of my working life at 60", making it a self-fulfilling prophecy.

So essentially, what most people are opposing when they oppose raising the retirement age is a loss of free time – free time, which they "conscientiously" and "responsibly"[1619] have been putting off to the future and for which they have been saving.[1620] Because employment is seen as a "job-or-no-job" thing, because of constant economic insecurity and because taking longer leaves of absence would be frowned upon as "laziness" or "non-loyalty" by peers and superiors, people have given up on the idea of having more of that free time now and have

1618 10:07->, Buettner, Dan, 2010, "How to live to be 100+", TEDx Talk, viewed 5.12.2012, http://www.ted.com/talks/dan_buettner_how_to_live_to_be_100.html

1619 ...in our current, 200 year-old economic morality. See this book's sister, "The Guilt Economy".

1620 Also, retirement "saving" (or rather paying "pension taxes") is compulsory in many countries (e.g. Finland). When you are currently forced to pay current pensioneers' pensions with 25 % of your salary, the idea of not receiving at least the same benefits later yourself seems extremely unfair.

adjusted to waiting for the "glorious retirement days" when they are finally "free".

Unfortunately, most research evidence suggests that a sudden change in lifestyle and daily habits isn't healthy for the human psyche – especially at an older age when the mind is less adaptable. And when these changes involve a loss of goals or opportunities to contribute, it is likely to hasten up both mental and physical deterioration. One-off retirees are often disappointed and lose their sense of purpose in life fairly soon, unless they have a very dear hobby they can expand on fluently after the retirement.

Dan Buettner' TED Talk, "How to live 100 +" presents enlightening research on longevity – especially the dangers of retirement. On the Japanese island of Okinawa, with one of the longest average lifespans on Earth, a characteristic cultural trait is the concept of "ikigai" – one's reason to wake up in the morning. Be it fishing, playing go or taking care of their grand-grand-children, the people who live the longest always have some thing that they feel like they want to and need to be doing.[1621] Retirement is fatal!

James W. Vaupel, head of the Max Planck research center, has lately suggested that people should work less when they are younger – to spend time with their families and friends and e.g. travel more – and rather work more when they are older and have too much time on their hands. His suggestion is that we should work until 80, but only work 25 hours per week. He emphasizes the same argument as Dan Buettner that "elderly people who work part-time are healthier than those who don't work at all and just sit at home."[1622]

This is a suggestion everyone should consider – especially ones with a family – and it would probably work better for most people than the current system. But it cannot be generalized. Some people don't want to have children or might have a strong "first work, then play" time preference[1623] even without the current system's incentives – possibly a preference strong enough that they are willing to save for more future free time even at a loss. However, even these people would benefit from more flexibility in how much of that free time to have and at what stages in their lives[1624] instead of a full, one-off retirement being the only option. Therefore the solution is (once again), not limiting the legal workweek, but giving people more possibilities to take time off during their careers.

If people could have – and would be incentivized to have – more free time already during their career lives as e.g. sabbaticals, longer holidays or shorter workweeks, one-off "retirement" might become a completely redundant concept. People would gradually start working less when their consumption needs fall or their health starts giving in. There would be nothing unsustainable about a drinking-glass-shaped, waning demographic structure – which would also provide a humane solution to our overpopulation challenges.[1625]

Unfortunately, major opinion leaders are currently looking for ways to get people to save up more for their retirement. This includes Dan Gilbert, a psychologist studying people's experienced satisfaction (which he calls "happiness") and cognitive biases.[1626] Gilbert has e.g. made himself the face of commercials of the Prudential insurance and investment company.[1627] Hopefully someone shows Gilbert Buettner's talk on how retirement is lethal (and outdated) and manages to explain to Gilbert, too, that money is not magically stored work[1628] and why everyone saving for a longer retirement (soon to last possibly half their lifetimes) isn't a very safe, profitable and sustainable option. (And why not question his assumption of happiness as satisfaction while you're at it[1629]).

What about physically demanding work such as firefighting or construction work? In such situations – just like when attempting the career of a professional athlete – it is clever to have another, longer-lasting and less physically demanding option up your sleeve. If we took the attitude that people can only do one kind of job in their lives, professional rhythmic gymnasts would retire at around 22 and spend 70 % of their lives on pension. Taking breaks from the physically hard work can also decrease health risks during one's working career. This excessive emphasis on a "professional identity" is discussed in more detail in "Sidenote Box 414B: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological fallacy in 'Callingism' and the Myth of Talent".

1621 Buettner, Dan, 2010, "How to live to be 100+", TEDx Talk, viewed 5.12.2012. http://www.ted.com/talks/dan_buettner_how_to_live_to_be_100.html

1622 "We should only work 25 hours a week, argues professor", Science Nordic, 3rd Feb 2013, cited 27.3.2013. http://sciencenordic.com/we-should-only-work-25-hours-week-argues-professor

1623 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1624 See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant".

1625 See: "3.3.2 Famines and Overpopulation".

1626 Gilbert, Dan, 2005, "Dan Gilbert: Why we make bad decisions", Ted Talk, cited 17.6.2013. http://www.ted.com/talks/dan_gilbert_researches_happiness.html

1627 "Prudential Super Bowl 2013 Commercial – Stickers", 13th Feb 2013, ComercialesTop, viewed 17.6.2013. http://www.youtube.com/watch?v=U5x1RjiMvJA

1628 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

1629 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

Sidenote Box 325A: Are Retirement Insurances and Pension Saving Schemes or Funds Necessary?

Pension plans are a big part of employment benefits in many countries and governments are granting tax reliefs and providing other arrangements for people to save for their senior years (which is one obstacle to making sharing work profitable[1630]). Some countries are bloating enormous public pension funds that invite corruption and, by hoarding bonds and other credit, serve their part in sustaining the global debt bubbles we are dealing with.[1631] Is saving for retirement really necessary at all?

In terms of cash flow, a governmental pension scheme would not require significant buffers of capital, as pensions can be paid out of currently paid retirement contributions.[1632] But whether people should be *forced* to participate in such plans is a difficult subject of debate. Especially, if we want to give people the alternative of extending their working lives to an older age, such "forced saving", "obligatory insurance" or "public transfer payments"[1633] (whichever way one wants to see the pension system) results in a significant disincentive against doing so. But on the other hand, the absence of any pension plan is a problem when a person falls seriously ill or becomes otherwise unable to work as long as she planned.

The latter problem of not knowing when one will be "forced to retire" is solved by simply substituting one's pension insurance for a cheaper health insurance that covers for the inability to work. There are valid arguments for providing such a basic health insurance – also covering for any genetic diseases or conditions one might be born with – publicly, but that is of course a controversial political subject of debate.[1634]

And what if one just ends up wanting to retire after all although first planning not to do so – and then not having the savings for it? What people often fail to see is that many of them are conducting two big savings projects simultaneously: their pension and their mortgage! Paying off one's mortgage is a big savings project. Homeownership can also serve as a "plan B" pension plan. In case one wants to retire earlier than planned in good health, one can sell off the apartment or take a "reverse mortgage" – borrow more against an apartment that is mostly paid off. This is also often more "profitable" than leaving the whole house as an inheritance, subjecting it to heavy inheritance taxes in many countries.

There is nothing wrong with individuals voluntarily saving for their pensions (in addition to or instead of a mortgage, as excessive encouragement of homeownership makes little sense[1635]) or taking private pension insurances – e.g. if they simply happen to be the "retiring type". If people decide to save "too much", this should just turn real interest rates negative (which is currently not possible[1636]) and such saving would start having a cost to it. Also, if people with a pension savings plan then want to continue working longer after all, it might be a good idea to, instead, donate their accumulated pension to e.g. their children or a societal cause that they consider worthy.

1630 See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs".

1631 The Norway Government Pension Fund is valued around $700 billion (http://www.swfinstitute.org/fund-rankings/) – over $100 000 per citizen – but it is not a "pension fund" as such, as it has been gathered mostly from oil profits instead of through actual pension contributions. For example Finnish public pension funds are collected through (legally obligatory) pension contributions and are valued at around 75 % of the national GDP (http://www.etk.fi/fi/service/el%C3%A4kerahastot/638/el%C3%A4kerahastot).

1632 Keeping massive buffers has been justified with the retirement of the "babyboomer" generation, but as this has largely already occurred, large pension funds are mostly a political choice – probably supported by our outdated economic morals.

1633 Milton Friedman at least denies the American public social insurance scheme would be an insurance scheme: "Social security was sold as an insurance scheme. It is not an insurance scheme. There is little relationship to the amount of money any individual pays and the amount of money he is entitled to receive." – Friedman, Milton, "Myths that Conceal Reality", presentation, viewed 2.12.2012, http://www.youtube.com/watch?v=zNtKk2EmI-o

1634 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance".

1635 See: "4.1.3.3 Other Ways of Encouraging Giving Work to Investors, Spenders and the Indebted?".

1636 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

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But what about currently paid pensions? Doesn't financing those require the currently employed population to save more? No. If the currently employed save more, we'll only have a bigger challenge paying *their* pensions when they retire: We would just be bloating up the problem in the future.

Here, it would be very important to understand the difference between *liquidity* and *solvency*. Liquidity is affected by cash flows, while solvency is affected by profits and losses.[1637] Additional liquidity can always be created – by extending credit, i.e. "borrowing" from the bank or the government – as long as there is no fear for the debtor's solvency. In the case of governments with their sovereign currency as well as in the case of banks, liquidity isn't much of an issue to worry about.[1638] Current incoming pension contributions relative to current income payments are liquidity and cash flow issues. Imbalances thereof do not threaten the system's long-term solvency.

What is confusing about for example the Finnish and American pension systems is that they are kinds of crossbreeds between a savings scheme, an insurance scheme and a transfer payment ("entitlement") system. It makes sense for the pension system to be a transfer payment system in the cash flow sense: that current pensions are paid mostly with current contributions, as there would hardly be profitable investment opportunities for all the capital if everyone were actually saving for oneself in deposits or company stocks.

But, alternatively, we could just back up all those unpaid pensions as special government bonds with very long maturities. The fact that they are not currently "on balance sheet", is just an accounting trick to make the government's books look nicer. But, because of the long maturities, the future pension liabilities (as a kind of public debt) are not a problem, as they do not increase the amount of liquid credit in the market and therefore do not increase the risks of hyperinflation.[1639] The main reason all future pension libilities are not included in government debt is probably that most people don't understand the difference that the maturities of debts make, and the numbers would just look really bad – making it harder to argue for responsible management of public deficits, as they would be relatively smaller compared to existing debts.

Regardless of how the balance sheets are written, the pension system is a savings scheme in the sense that the justification for the pension entitlements is that the pensioner has contributed that amount during his worklife. As Stanley Druckenmiller says:

> "When you guys go out into the workforce, and I can see some of you already are, you're going to have to pay something called a 'payroll tax'. And your payroll tax is supposedly to pay your social security and future medicare and things like that. Unfortunately it doesn't pay for you – it's going to pay for Geoff and I in three years." ... "And all you have is a promise that that money is going to be around for you. Well, to me, what that really is, is a borrowing. So if you are paying money, ok, with a promise that you're going to be paid back in forty to fifty years for that money you put in – because it's not for you, it's going for us right now, that's how the system works." ... "All that stuff that is off balance sheet – which are the promises – are going to come on balance sheet and ... even the reported debt is going to explode and explode very rapidly."[1640]

This view provides a simple solution to the dilemma of funding pensions. If the "savings" made earlier (as "payroll taxes" or pension contributions) are the justification for pension payments, then (as with any savings) the repaid amount should depend on the rate of interest. In any savings scheme, one cannot promise a set amount of profit to be received in 30 years, as one cannot know what the opportunities for profitable

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1637 See: "1.1.3.b Companies as Contract Bundles – Financial Assets Allocate Risks".

1638 Of course, in the case of governments, their liquidity in foreign currencies is relevant for foreign trade and settling foreign debts, and in the case of retail banks, their balances of liquid central bank money is relevant for their liquidity (to clear transactions) with other banks. See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

1639 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

1640 47:22>. "Geoffrey Canada '74 and Stanley Druckenmiller '75: Generational Theft", interview, viewed 25.9.2013, http://vimeo.com/65731171

Continued on page 341 ▶

investment will be during that whole time – what the market interest rate will be.[1641] Such a promise is not far from setting up a Ponzi scheme. If payments are promised expecting certain levels of profits and those profits aren't fulfilled but the promises maintained, that is a solvency issue. And solvency issues *are* long-term sustainability issues.

However, if public pension funds are depleted because there are fewer people paying pension insurance contributions – either because there are fewer young people due to falling birth rates or because new generations don't want to retire (at all, so early or with such lavish pensions) – that is purely a *liquidity issue* lasting only for the transition period. If current workers save less, that means that there will be less pension payments to be made when current workers retire. In that case, it is justified to fund the pensions of current retirees simply by marking up more government debt on the "assets" side in the books – or raising taxes modestly if we don't want the liquidity in the market to increase too much.

As said, we could perceive it so that the people paying contributions ("saving for their pension") have lent the government their retirement money and we could – and kind of should – write up government debt on the "assets" side for all the remaining future pension liabilities of pension insurance companies.[1642] It would not be fair from the government to not pay back debts simply because other people don't want to "lend" to it in the same way anymore.

But if pension funds are depleting because pensions were promised with expectations of higher interest rates – and hence higher yields on fund investments – than what actually prevailed, then pension compensations ("entitlements") should be adjusted according to the realized interest rates. Similarly, if pension costs rise because pensioners live longer than expected and hence receive monthly payments for a longer time – and hence a bigger amount in total – then the monthly pension entitlements should be lowered accordingly in relation to contributions.[1643] If the pension system is set up as an insurance, then – just as with insurances – if the average amount of compensations increase, then the insurance premiums have to rise also. In the case of a pension insurance, premiums cannot of course be applied in retrospect for the current retirees. Thus, the sustainable option is to lower "insurance compensations."

If, at that point, pensioners (and especially soon-to-be-pensioners who haven't retired yet and could at will continue working and "saving" longer) demand that the sizes of their pension payments be maintained regardless and that the gaps should be financed through increased taxation, we are talking about an entitlement (transfer payment) system, not a retirement savings or insurance scheme. Such demands could hence be considered asking for charity from the rest of the population – or "generational theft,"[1644] as Stanley Druckenmiller calls it, if such requirements were forced through.

Note that the government-paid work-inability insurance described earlier *is* a kind of transfer payment and can be justified from a Rawlsian or Game Design perspective.[1645]

1641 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1642 Not all outstanding pension savings are currently visible in the balance sheets of pension insurance companies. E.g. The Finnish pension insurance company Eläke-Tapiola's pension contribution revenues were 1 426 m€ and its pension payments 1345 m€ while its compensation liabilities (for started pensions) and its provision for unearned premiums (for not yet started pensions) were only 3 346 m€ and 4 874 m€ respectively – totaling to around 6 years' contributions or payments.
Annual Report – Keskinäinen Eläkevakuutusyhtiö Tapiola, retrieved 26.6.2013, http://www.lahitapiola.fi/NR/rdonlyres/3F6E98E9-6C36-4C12-8410-83CF91AB2384/0/ElakeTapiola2010_vuoskari_final.pdf

1643 Uusitalo, Roope, "Millainen on optimaalinen eläkevakuutus?" blog post, Akateeminen Talousblogi – Aalto School of Business, 8th Aug 2013, cited 19.11.2013, http://blog.hse-econ.fi/?p=5535#more-5535

1644 Also e.g. Sixten Korkman points out how the baby boomer generation in Finland has achieved significant public entitlements on the expense of the current working age population.
– Korkman, Sixten, "Suuret ikäluokat haalivat itselleen etuja, jotka nuoret maksavat", Helsingin Sanomat, column 17th Apr 2014, cited 2.5.2014, http://www.hs.fi/talous/a1397730148226

1645 See: "2.1 Normative Principles – What Do We Want from an Economic System?".

3.2.6 Effects on Crime

In short:

- *People are very likely to break the rules when the rules treat them unfairly and threaten their lives or self-esteems.*
- *If everyone always had options to make a proper living legally and didn't have to fear poverty, we'd likely have much less crime.*

> "Who cheats? Well, just about anyone, if the stakes are right. You might say to yourself, I don't cheat, regardless of the stakes. And then you might remember..." Steven D. Levitt & Stephen J. Dubner, Freakonomics (2005, p 21)

> "We've got to stop focusing solely on the symptoms of crime, and start caring about the causes as well." – Carrie P. Meek

> "But I do mean to say that we might all have enough wealth to satisfy reasonable desires ; that we might all have so much of the material things we now struggle for, that no one would want to rob or swindle his neighbor ; that one would worry all day, or lie awake at nights, fearing he might be brought to poverty, or thinking how he might acquire wealth." – Henry George, Social Problems (1883, p. 102)

A lot of crime is economic or at least partly economically motivated. Why would a person resort to robberies and burglaries? Some kleptomaniacs might get kicks and excitement out of it that they cannot get otherwise, but far more often the motive is in a desperate need to make a living or a sense of frustration in one's income level, which one considers unjust. Income levels correlate negatively with criminal activity while a high frequency of unemployment and changing jobs correlate positively.[1646] (Ellis et al 2009)

"Crime" in essence means breaking the laws of the society:[1647] someone deciding not to "play by the rules" of the game. Some of the most common reasons people decide to disobey rules are that they consider the rules to be unfair towards them or find the game frustrating. Breaking rules becomes almost certain when the person's life or self-esteem is threatened. Unemployment or slave rate wages tend to threaten a person's self-esteem seriously and, in the absence of a social support system of some kind, also her physical survival.

When a person knows she is productive and capable of producing added value to others, but isn't allowed to participate in producing it due to no fault of her own, that could definitely be considered a frustrating situation. Even more frustrating and self-esteem-killing than repeated failure, is not getting to try again or play at all. In a market economy, everyone is forced to play the game of earning "deserving" the things they consume (in which money is just a score for keeping track of these earnings and debts). Who can blame a person deprived of legal means of earning for consorting to illegal sources for the income that she needs for her survival?

Countries with a social support system tend to have lower crime rates and better safety than countries with none. Also within countries, people with college degrees – i.e. a chance to make a decent living legally[1648] – have dramatically lower imprisonment rates than people who don't.[1649]

If everyone always had the opportunity to make a living a legal way, there would likely be far less crime and thus also less need for prison capacity and policing costs.

Additionally, a lot of crime is related to drug abuse. Even without the "war on drugs", which links drug dealing to organized crime, junkies are more desperate to get income for their doses and less able to control their actions (including respect for others' property or "self-ownership"[1650]). As presented in "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life", research shows a strong link between drug addiction and a lack of meaningful content and contacts in people's lives.

Of course all crime cannot be eliminated. There will always be passion crimes, selfishly greedy people, kleptomaniacs, mental illnesses and people who just have problems with any kinds of authority. In reducing such

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1646 It is, of course dangerous to draw conclusions of unbreakable causality one way or the other from mere correlation. See: "6.1.4 Appendix 1.4 The Conundrum of Causality – The Culprit Depends on Comparison".

1647 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

1648 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

1649 "According to data presented by Andrew McAfee in his TED Talk "What will future jobs look like?" the imprisonment rate for highly educated, well-to-do people is less than a 20th of what it is for low-skilled, lower-income people." 8:40->, McAfee, Andrew, 2013, "What will future jobs look like?" TED Talk, viewed 17.6.2013, http://www.youtube.com/watch?v=y0RQE3A47Hw

1650 See: "Sidenote Box 11.7A: Ownership as an Idea, Feeling, Relationship or Extension of the Self?".

rule-breaking, it is crucial to allow people to develop robust self-esteems, beginning from early childhood. In this, the education system has a big role.[1651]

1651 See: "4.1.4 Subsidize, Deacademize and Re-Game Design Education to Maximize Flexibility, Mobility and Adaptability".

3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity

In short:

- ***One of the biggest obstacles to entrepreneurship is the risk of not getting back into the labor market after a failure. Ensuring earning opportunities and better facilitating part-time work would lower the threshold to entrepreneurship significantly.***
- ***Major obstacles to expanding potential small businesses are the legal risks and costs associated with recruiting. Eliminating recruiting risks and labor reduction restrictions would make expanding small companies much easier.***
- ***"Job creation" is a questionable argument for promoting entrepreneurship: entrepreneurship often rather destroys work (eliminates waste) than creates it – which is just great.***

"As in the Korean example, a lack of job security can lead youngsters to make conservative choices with their career, favouring secure jobs in medicine or law. This may be the right choice for them individually, but it leads to a misallocation of talent and thus reduces economic efficiency and dynamism." ... "Over time, people came to realize that the lack of a second chance was hugely discouraging risk-taking by businessmen." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 226 & 227)

"What do we mean by barbell? The barbell (a bar with weights on both ends that weight lifters use) is meant to illustrate the idea of a combination of extremes kept separate, with avoidance of the middle. In our context it is not necessarily symmetric: it is just composed of two extremes with nothing in the center." ...

> "There are so many fields in which the middle is no 'golden middle' and where the bimodal strategy (maximally safe plus maximally speculative) applies." ...
>
> "A friend of mine built himself a very secure profession as a book editor, in which he was know to be very good. Then, after a decade or so, he left completely for something speculative and highly risky. This is a true barbell in every sense of the word: he can fall back on his previous profession should the speculation fail, or fail to bring the expected satisfaction." – Nassim Nicholas Taleb, Antifragile (2012, p. 161, 163 & 164)

Many countries have lately been developing incentive systems to encourage more entrepreneurship – especially startup entrepreneurship aiming at scalable business models. For politicians and lobbyists, the main justification for this is of course the same old "job creation" and "economic growth."[1652] *Fortunately,* this argument is mostly fallacious. Entrepreneurship does not "create jobs" in net, unless it simultaneuosly manages to induce consumers to spend on something new without cannibalizing any existing consumption. Otherwise any "work created" is "work destroyed" elsewhere: in rival companies, other industries or overseas (if it tilts the foreign trade balance[1653]). More often, B2B-services and innovations directly reduce needed work without increasing the total demanded amount of the services provided by the client industry. Cullen Roche explains this well with the case of Alexander Graham Bell's invention of the telephone:

> "But the important role that Mr. Bell played in the job creation process is not that he necessarily created jobs independent of his consumers (they are interdependent). After all, there were plenty of messengers already employed and working before the telephone came into being (Mr. Bell actually destroyed their jobs).
>
> What Mr. Bell did is give his consumers more time to consume other goods and services. He reduced the toil and trouble of having to acquire things by providing them with a product that made their lives more efficient and productive."[1654]

So, with the Root Bug fixed, entrepreneurship has even greater benefits in that it allows the development of new innovative products, services and other solutions, including social innovations. The resulting reductions in needed work (i.e. elimination of waste), especially the most boring and frustrating chores, give people more time and opportunities to realize their other ambitions. Additionally, new entrants into existing industries keep competition fair and more efficient, forcing incumbent companies to improve their practices and preventing them from maintaining rip-off margins.[1655]

Current support schemes include public funding for new startup ventures as well as tax reliefs for venture capital and business angel investments. These schemes of course look good for the politicians enforcing them – as does anything that promises jobs and gives free money to people.[1656] However, despite some flashily reported success stories, the effects have not been along the lines of the expectations. Getting risk-free funding encourages "entrepreneurs" to take on prototype projects that they consider fun, but not necessarily potential enough to carry the risks of the investments themselves. Additionally, the application processes and reporting bureaucracy involved takes a lot of time and effort that could instead have been used for developing the product, partnerships as well as client and investor relations.

Many wannabe entrepreneurs complain that the obstacle to starting anything is funding. However, if an idea is potential enough, getting seed funding from private venture capitalists is only a matter of making a good pitch (which will be necessary for selling the product or service to clients in any case) and proof that your team is committed to putting "all in" on the idea. Even without external funding, you can always start a company on "sweat equity" if all the participants are willing to work on share and options compensation without liquid pay. And if no one is willing to carry the risks of an investment, such an investment should probably not be made.

A bigger obstacle to pushing a startup further is the complex bureaucracy and high costs and risks involved in recruiting the first employees when the company is starting to take off. Reducing these risks would be a much more efficient way to help potential ideas turn into flourishing businesses – or even new industries – than pouring free money for "hobby projects".

Even more notably, taking on the career of an entrepreneur is currently extremely risky: One often needs to quit one's current job completely to even start investigating a

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1652 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1653 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

1654 Roche, Cullen O., 2011, "The Role of the Entrepreneur in a Capitalist Economy", cited 12.5.2014, http://pragcap.com/the-role-of-the-entrepreneur-in-a-capitalist-economy

1655 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1656 See: "3.1.8 Public Sector Inefficiency" and "6.3.2 Appendix 3.2: The Challenges with Democracy".

possible business idea. If it were profitable for employers to share work, it would be easier to take part-time off from a job to start exploring a possibility and quitting one's job to pursue an idea full-time would not be such a big step either, as the chances of being able to find at least some paid work after a failed venture would be much better.[1657]

The fact that there would be less earning opportunities available than some people might desire in some industries further increases individuals' incentive to consider taking a leap of faith and attempting to establish their own firm. To avoid employees trying to evade the work-sharing incentives by selling themselves to employers rather as sole trader consultants than employees requires that the total taxation of capital income matches the maximum total taxation of labor, as is discussed under "4.1.2.6 Avoiding Tax Avoidance through 'Entreployees'".

Additionally, setting a market value tax on holding patents would open up many currently gridlocked or purposefully blocked technologies for further development and application in new solutions.[1658]

And finally, the fact that negative real interest rates would be possible and that the government guarantee of deposits would not be free[1659] would get investors to seek better profit-making opportunities even in economic declines and would be likely to increase the supply of risk-tolerant venture capital.

Even outside spurring new ventures, the added freedom of choice to control one's amount of working[1660] can increase productivity significantly – especially in creative professions and by spurring innovations. Even when individual project or client relations require full momentary engagement and dedication, taking breaks between projects or sabbaticals between positions can provide extremely valuable new perspectives and get one out of creativity gridlocks and mind-blocking, entrenched habits. Stefan Sagmeister presents his personal case example in his TED Talk, "The Power of Time Off".[1661]

1657 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Burming: Economic Freedom Need Not Be Free".
1658 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".
1659 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".
1660 See: "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs".
1661 Sagmeister, Stefan, 2009, "The power of time off", TED Talk, viewed 8.3.2013, http://www.ted.com/talks/stefan_sagmeister_the_power_of_time_off.html

3.3 GLOBAL SOCIAL ISSUES

"Those who can make you believe absurdities can make you commit atrocities." – Voltaire

"True compassion is more than flinging a coin to a beggar; it comes to see that an edifice which produces beggars needs restructuring." – Martin Luther King Jr.

3.3.1 Solving Poverty for Good – Ending the Economy War

In short:

- *Poverty persists mainly because it is in the (short-term) interests of the developed world to keep "developing" countries uncompetitive (and hence not developing) as well as indebted to facilitate rich countries' citizens' savings.*
- *Currently, countries are not competing over living standards but over financial wealth – trying to indebt each other by any means, which is an outright economy war.*
- *Getting rid our economies' dependence on growth would remove the need to wage this economy war, allow current accounts to be kept in balance (automatically) by currency exchange rates and wage levels and allow all countries to benefit from trade and each other's productivity development.*

"[W]e've never seen an example of any country that has escaped extreme poverty because of foreign aid or, you know, NGOs. And more people have escaped extreme poverty in the past 25 years in part due to the growth of China and India than in any period of human history. And all of these miracle countries ('miracle' in the economic sense): China, South Korea, Taiwan, Hong Kong, Singapore, Chile down in Latin America, they've all grown through high levels of trade and market economies." – Joseph P. Kaboski (economics professor at University of Notre Dame)[1662]

"[P]ractically *all* of today's developed countries, including Britain and the US, the supposed homes of the free market and free trade, have become rich on the basis of policy recipes that go against the orthodoxy of neo-liberal economics.

Today's rich countries used protection and subsidies, while discriminating against foreign investment – all anathema to today's economic orthodoxy and now severely restricted by multilateral treaties, like the WTO Agreement, and proscribed by aid donors and international financial organizations (notably the IMF and the World Bank)." – Ha-Joon Chang, Bad Samaritans (2008, p. 15)

"The cheap prices of commodities are the heavy artillery with which [capitalism] batters down all Chinese walls, with which it forces the barbarians' intensely obstinate hatred of foreigners to capitulate. It compels all nations, on pain of extinction, to adopt the bourgeois mode of production; it compels them to introduce what it calls civilisation into their midst, i.e., to become bourgeois themselves. In one word, it creates a world after its own image." – Karl Marx and Friedrich Engels, Communist Manifesto (1848, p. 7-8)

1662 25:52->, "Pontiff-icating on the Free-Market System", Freakonomics Radio, 19th Dec 2013, cited 2.5.2014, http://www.wnyc.org/story/pontiff-icating-free-market-system/

We all know the saying "Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime". Let's add to that: "Buy some fish from him and you bring his nation out of poverty." The only permanent and sustainable way of improving living conditions in poor countries is to let production move into these countries as well as help them develop education systems that allow them to compete for a larger range of types of work and establish institutions that facilitate the development of more complex forms of cooperation and industry, creating *export* opportunities.

But what first world countries are doing – and have been doing for the past century – is the exact opposite: Their primary focus is on maintaining *their own competitiveness* and boosting their foreign trade balances – their exports over their imports – and current accounts – total income received from overseas minus expenses paid overseas. As explained in "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage", the sum of all countries' current account balances is zero. Any possible deviations from this are due to lacking data or differences in accounting practices.

If some national economies – including the government, citizens and institutions within its borders – are net indebted, the only way that they can get rid of this debt is by achieving a positive current account balance: exporting more products and services than they import and/or getting more interest payments and dividends in than they pay out (or getting rich people to move into their country). On a global scale, this is not possible unless net creditor economies have a current account deficit[1663]. It is not economically sustainable for net creditor economies to maintain a current account surplus in the long run, as this will cause the net debtors to fall further into debt and eventually make them default on the debts – unless the surplus is accompanied (and caused by) a constant immigration flow. In a free market, these current account balances and competitive advantages should be balanced by adjustments in wage levels and/or currency exchange rates.

So why do rich countries not allow this to happen? Because their primary concern is keeping their own GDP growing to keep their own population – "fishermen" – employed. While claiming to root for "free trade", they are blocking many of the only possible imports from developing countries with agriculture subsidies. There is no way they could afford to let developing countries develop an effective education system that might increase their productivity and hence allow them to become globally competitive, because this would pose a threat to many of their own industries – and thus "jobs".[1664] Even "absolute" competitive advantages (price competitivenesses) are *relative*[1665] and the easiest way to maintain competitiveness is to keep others uncompetitive.

So instead of teaching poor people to fish (e.g. to code Java), we (Westerners) just throw a few herrings (food and medical aid) their way every now and then to appease our own consciences. The only thing we have achieved is that we have burdened them with even more debt, made it even harder for their "fishermen" (farmers and other workers) to make a living selling their "fish" and made them more dependent on our help – which of course suits our countries' political interests.

Agricultural subsidies can be understandably defended from a national security point of view: In the case of an international conflict, a country without any own food production capacity and infrastructure left is in serious trouble. However, in this case it would be fair to support imports from other countries in other sectors. And it would be much more honest (and more efficient in terms of government funding) to block the imports rather with tariffs. Industry subsidies are just as much protectionism as tariffs are.

The first and foremost reason for agricultural subsidies is maintaining employment in the U.S. and the European farming sectors. This has reached the extent where food is actually being exported to e.g. African countries where it should be much cheaper to produce food – in terms of both natural growing conditions and labor costs. Another ghastly example is the fact that the EU countries have used taxpayer money to buy off the fishing rights for the West African coast. So not only are we killing local livelihoods by dumping cheap food (against which the local farmers are unable to compete) into these countries, but simultaneously we are preventing them from

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1663 26:20 & 25:17->, "Global instability is as much or more a result of the behavior of surplus countries as of the deficit countries." … "It is simply impossible for all countries to have a surplus! That's arithmetic." – Stiglitz, Joseph, 2012, "Is mercantilism doomed to fail 4/5?" presentation, viewed 3.3.2013, http://www.youtube.com/watch?v=D207fSLnxHk

1664 Episode 6, Season 8, "Goobacks" in the comedy series South Park is fitting parody about us Westerners' two-faced and stubborn attitude towards the misery of people in other countries. We want work for ourselves, but for some reason, giving work to people in or from poorer countries is "socially irresponsible". This one-eyed, two-faced attitude is incorporated into the slogan, "They took our jobs!" – which also seems to be considered a very valid argument in real world political debate: http://www.youtube.com/watch?v=768h3Tz4Qik
Yes they took some earning opportunities from you by doing it cheaper than you would. And they did it for cheaper because they needed the income much more urgently. But, the reason you lost "jobs", was because you didn't share the rest of the work or get those with savings in your country to spend or invest more to "create" more work.

1665 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

obtaining food for themselves by depleting their local natural resources. (Kaczynski & Fluharty 2002)[1666] [1667]

Let's not give people pitying, demeaning and passivating charity, but a fair opportunity to make a living and participate in the global economy. But before we can afford to "share work" into developing countries, we have to learn to share it within our own countries according to our own citizens' needs. Only when we have rid ourselves of our dependence on economic growth, can we finally stop fighting this ruthless economy war between nations and actually help poor countries out of poverty, instead of hypocritically appeasing our own consciences with "foreign aid", "charity" and "fair trade"[1668] while colonialistically and mercantilistically indebting them further.

For more insight into this, we suggest "Confessions of an Economic Hitman" (2005) as an enlightening read. Although Perkins (like many others), writing with an emotional charge, seems to point fingers at greedy people instead of institutions,[1669] making the story sound a bit like a conspiracy theory, the book points out interesting historical events and how economic tools such as "development loans" and foreign direct investments (FDIs) can be used as means of neocolonialism.[1670] For a more "academically credible" account of how there is no truly free trade and how countries that have managed to bring themselves out of poverty during the past century (like Finland, Korea and China) have done so by employing the same protectionist means as the incumbent rich countries have before, we suggest Ha-Joon Chang's "Bad Samaritans: The Myth of Free Trade and the Secret History of Capitalism" (2008).

And these neomercantilist strategies of Western countries haven't gone anywhere. For example Finland has officially made it the objective of its foreign development cooperation policy to "develop the private sectors of the [developing] countries and hence raise customers for Finnish companies". The foreign trade minister has been actively traveling around countries with representatives of Finnish companies helping them make big supplier deals. The best foreign aid would be helping e.g. African companies into Finnish markets, but of course that isn't part of the job of the development minister, who instead helps the foreign trade minister[1671] in his sales work. Actually promoting the development of African industries might threaten Finnish citizens' jobs.

Someone needs to teach our politicians – an especially the voters – something about current account balances and the difference between comparative and absolute advantage.[1672]

Ironically, the people calling for more foreign aid are often the same ones who oppose the transfer of production to poorer countries and campaign for buying local products. This is partly due to a lack of general understanding of economics, but even more a result of our outdated economic morals. These morals, dating back to a time when capital was scarce and people lived hand-to-mouth, still demonize spending and attribute absolute value and virtue to work and saving without recognizing how these cause us to keep others in debt. Additionally these morals say that *giving* is the best and most virtuous way to help others – although no one really wants be the object of charity or any other form of pity. Would you? You would probably prefer to earn your own living – build your own career, life and wealth (if you desire any). These dilemmas are discussed in more detail in this book's sister, "The Guilt Economy – Rage Against Our Medieval Money Morals".

When poverty can be solved quickly, so could all of its inhumane side products. The chapters in this section provide a quick overview of some major issues.

"We turn over the stone as we poke and harvest the world in democracy's name. And even though our own is a joke, we need yours to be all the same. ...

When it's all too late, you will discover that wanting to help is a lie.
This is what we do: We exploit under cover, swift like a thief in the night.

And when you're free to consume and to use, we will service you with everything we produce. Take it or leave it but know this one truth: We market this freedom for you." – Machinae Supremacy, Seventeen

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1666 Vidal, John, "Is the EU taking its over-fishing habits to west African waters?" The Guardian, 2nd Apr 2012, cited 5.7.2013, http://www.guardian.co.uk/environment/2012/apr/02/eu-fishing-west-africa-mauritania

1667 Vidal, John, "Seven steps to prevent the collapse of west Africa's fishing grounds", The Guardian, Poverty Matters blog, 2nd Apr 2012, cited 5.7.2013, http://www.guardian.co.uk/global-development/poverty-matters/2012/apr/02/steps-prevent-collapse-west-africa-fishing

1668 How these three form quite an "axis of evil" is discussed in more detail in "The Guilt Economy".

1669 See: "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".

1670 "Neocolonialism", definition, The Free Dictionary, cited 26.11.2013, http://www.thefreedictionary.com/neocolonialism

1671 Tikkanen, Josi, "Stubb matkaa edeltäjiään ahkerammin", Kauppalehti, 23rd May 2013.

1672 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

Sidenote Box 331A: Do Developing Countries Need Protectionist Measures to Get out of Poverty?

"It is a very common clever device that when anyone has attained the summit of greatness, he kicks away the ladder by which he has climbed up, in order to deprive others of the means of climbing up after him." – Friedrich List (Chang 2008, p. 16)

Ha-Joon Chang, an economics professor at the University of Cambridge, is of the opinion that trade based on comparative advantage – countries specializing in things that they are relatively better at – leads to efficient outcomes, *"accepting the current levels of technology as given"*. But for this reason, it can also preserve the *status quo*, preventing desired kinds of development, like the adoption of new technologies (Chang 2008, p. 47). Chang makes the claim that for developing countries to get out of poverty, they need to:

- protect "infant industries" from foreign competition with tariffs or subsidies until they are developed enough (Chang 2008, p. 50),
- restrict foreign direct investments (FDI) during early phases of their development (Chang 2008, p. 84-92) and
- refuse to respect foreign technology patents (Chang 2008, p. 122-144).

And historically, these are the kinds of things that have been done by previously poor countries that have made their way into the league of developed – or *actually developing* – countries (Japan, Korea, China and Finland, and even the UK and U.S. in 18th and 19th century). This is understandable, as the incumbent rich countries advocating free trade ("bad Samaritans" as Chang calls them) have not been playing a fair free trade game themselves, but adopted subsidies and other protectionist measures where it suits their own interests. But would such protectionism still be necessary to get rid of poverty if rich countries were to stop waging the "economy war" and were to let their current account balances drop slightly to the negative side?

It is a valid point that if most investment (equity investments and risk credit) comes from abroad, a country easily remains with a negative current account balance despite growing exports (a positive *foreign trade balance*), as most profits are paid back overseas as dividends and interest payments, and thereby the national economy ends up falling further and further into debt.[1673] However, what prevents domestic equity investment is not competition from foreign capital, but the fact that not enough domestic capital – savings – accumulate. Even most multinational corporations are publicly traded and anyone could buy their shares, turning the profit streams in their own direction. And what prevents this capital accumulation, is the low productivity of labor and restrictedness to profession with low pay. If people are able to acquire skills that let them compete for types of work that have a high market price, they will be able to save and invest, which will allow them to start earning capital income as well. As Chang says, a major problem is the limited range of choice – of both employment and types of entrepreneurial ventures:

> *"Of course, this problem would not exist if new business lines could be developed – if one line of activity becomes unprofitable due to overcrowding, you simply open up another one." ... "The problem is that there is only a limited range of (simple) businesses that the poor in developing countries can take on, given their limited skills, the narrow range of technologies available, and the limited amount of finance..." (Chang 2010, p. 164)*

1673 Noteworthily, this self-reinforcing effect of current account deficits would be reduced if negative interest rates were allowed and a price was set on the government deposit guarantee, as it would also lower the costs of credit for poorer countries and the profit requirements of foreign investments. See: "4.2.3.6 A Balancing Effect on Current Account Balances and Other Credit Relations".

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If imports of cheaper foreign products are blocked "to protect infant industries", the resulting rise in living expenses rather hampers locals' ability to save. E.g. in South Korea, initial major investments into industrial sectors had to be strongly supported by the government. (Chang 2010, p. 126-129)

Companies are competing organizational forms and, if not restricted, will arrange production where it is most profitable to arrange it – if such moves are not hindered. And one of the most significant factors of a region's competitiveness (over investments and production) is the availability and cost of labor with the required skills. As long as people have access to education in order to acquire skills required for more "productive" labor markets (ones producing goods of higher market value[1674]), the existence of high tech industries in incumbent rich countries won't prevent companies from moving production into countries where skilled workforce is cheaper.

Credible monetary and legal systems that maintain trust in property rights[1675] and mitigate other political risks are certainly also important, but they are rather a hygiene factor: It is hard to compete with them alone after a certain level of safety and ease of bureaucracy has been reached.

Technology patents can of course be used to prevent fair competition. To ensure that such technology monopolies – if they are granted – are always used for the most productive purpose possible, the patents should, firstly, always be temporary and, secondly, should be taxed according to their market value, as explained in "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies". Although patents would be granted globally, the patent rights could be traded for each country separately, and the revenues from the patent tax should go to each country according to the market value of the patent in that country, as that is where the patent causes negative externalities by restricting others' actions. This would prevent companies from restricting free competition and production technologies would be used wherever the costs of needed types of labor would be lowest and other production conditions would be most favorable.

So, summa summarum, if rich countries dropped their mercantilist agendas and protectionist means, developing countries should only need to (1) weed out corruption, uncertainty in property rights and financial issues and mitigate other political risks and then (2) focus on developing the human capital in their country by investing in education.

Of course, there is the "brain drain" risk: One could expect freshly trained employees to move to "greener pastures," i.e. to countries with established high tech industries, where they could likely get paid better. But on the other hand, highly trained employees could surely achieve a higher living standard – and an even higher *relative* living standard – by working in subsidiaries or fresh companies established in their poorer native country (assuming that institutional deficiencies don't prevent such enterprises from being established). Also, there are huge personal costs in moving overseas and leaving one's family and friends behind.

Nevertheless, Chang's arguments are valid in that there is always friction in such transition processes and, therefore, some temporary protectionism – a nudge to get things moving beyond just supporting education development – might be necessary. Going back to the analogy of ecosystems and the case examples of imported rabbits causing massive damage to Australian native plant species (introduced in "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'"), we could consider opening up two very different economies to free trade too quickly to be as undesirable and damaging to the economies' ability to produce value for their participants as mixing all the species of New Zealand and the Galapagos Islands with all of those of the Asian mainland would be to biodiversity and the sustainability of the ecosystems. Sudden and rapid economic integration might

1674 Note that this is note the same as unit productivity, which cannot be compared between different industries. See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1675 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

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impose unnecessarily harsh structural shocks on both economies. Also, excessive industrial specialization (and division of labor[1676]) between countries and regions increases their interdependence, making the global economy more fragile and less adaptable in the long run – though much more efficient and productive momentarily. E.g. Nassim Taleb points out this fragilizing effect of global overspecialization. (Taleb 2012, p. 384)[1677]

If two very different economies want to open up trade relations, it is probably advisable to do so partially and gradually, employing "mutually beneficial protectionism" to avoid unnecessarily drastic structural shocks and dangerously fragilizing overspecialization. If e.g. one country wants to maintain its independence in agricultural produce (to reduce political risks) and the other wants to protect some infant industries, that is just fine, as long as the objective is overall balanced trade in the mid-term. But the current neomercantilist agendas of Western countries – forcing "free trade" on poor countries and then blocking their most potential exports with agricultural and industrial subsidies – is just purely evil usury and enslavement.

In any case, the first step is that rich countries need to stop *purposefully* indebting developing countries and hindering their progress. And before this "economy war" is dropped, politically less powerful developing countries – and especially ones that are critical sources of natural resources for the developed word – will not be able to implement such potentially needed protectionist measures without catastrophic countermeasures from the rich countries.

> "The terms rich and poor are of course frequently used in a relative sense." … "Now, we cannot, of course, all be rich in the sense of having more than others ; but when people say, as they so often do, that we cannot all be rich, or when they say that we must always have the poor with us, they do not use the words in this comparative sense." … "What I mean is, that we all might have leisure, comfort and abundance, not merely of the necessities, but even of what are now esteemed the elegancies and luxuries of life. I do not mean to say that absolute equality could be had, or would be desirable. I do not mean to say that we could all have, or would want, the same quantity of all the different forms of wealth." … "'The poor ye have always with you.' If ever a scripture has been wrested to the devil's service, this is that scripture." – Henry George, Social Problems (1883, p. 101-102 & 112)

1676 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

1677 "He [Thomas Friedman] promotes the 'earth is flat' idea of globalization without realizing that globalization brings fragilities, causes more extreme events as a side effect, and requires a great deal of redundancies to operate properly." (Taleb 2012, p. 384)

3.3.2 Famines and Overpopulation

In short:

- *With the excuse of maintaining their own agricultural independence (but, in reality, more for protectionist and mercantilist reasons), Western countries have destroyed the agricultural independence of many developing countries, making them more vulnerable to speculative market bubbles and political risks.*
- *Famines cannot be stopped permanently by increasing food production efficiency as long as populations keep on growing.*
- *The humane way to (eventually) halt population growth is to increase living standards and economic security to levels at which having many children is no longer necessary as an economic insurance. In a big part of Asia and the Americas this has already happened.*

"Democracy cannot survive overpopulation. Human dignity cannot survive it. Convenience and decency cannot survive it. As you put more and more people into the world, the value of life not only declines, it disappears. It doesn't matter if someone dies. The more people there are, the less one individual matters." – Isaac Asimov

"Instead of controlling the environment for the benefit of the population, maybe we should control the population to ensure the survival of our environment." – Sir David Attenborough, The Life of Mammals (nature documentary series)

"For me, I realised only gradually that what the governments and businesses of wealthier countries cynically called 'free' trade was nothing of the sort. The deal their officials secured left trade decidedly unfree, hugely weighting the benefits in their industries' favour. European and US subsidies for industrialised farming were among the most glaring examples. Their farmers' dumped their surpluses on poor countries' markets, trashing local food production chains and helping obliterate what benefits might have 'trickled down' from the new trade deal." … "These were particularly damaging to poor countries, blocking their access to one of the few sectors they might have exploited and exposing them to subsidised surpluses dumped on their markets. The effect literally starved their farmers off the land, driving them into the slums bordering major cities. At the same time, the same subsidies did little to help smaller farmers in the rich countries, ones in whose names the handouts had been misleadingly justified by negotiators." – Patrick Chalmers, Fraudcast News (2012, p. 48-49)

"Many campaigners across a whole range of groups are intuitively concerned about food speculation, but they often fight a 'proxy war'. Their technical arguments about why such speculation distorts markets frequently contain an implicit philosophical argument that it is simply not right to 'invest' in food commodities, regardless of whether it impacts on prices or not. The philosophical principle may be this: ***An investor in food prices is explicitly relying on a situation that must entail the suffering of vulnerable people (especially those who are not farmers, such as urban slum dwellers). In positioning themselves to gain while others suffer, an investor lacks empathy for, or solidarity with, the sufferers.***

This sense of intuitive wrongness, however, may cloud the technical debate as justice campaigners seek to prove their intuition by appealing to statistical studies and other such data. The problem though, is that as with climate change this helps set up a 'prove vs. disprove' mentality which opens the issue up to being apparently 'disproven' by those with a counter-intuition." – Brett Scott, The Heretic's Guide to Global Finance: Hacking the Future of Money (2013, p. 152, *italics* in original)

It is very trendy to blame banking and the financial market for every possible problem that they might be involved with – and, conveniently, finance is involved with almost all economic activity somehow. One popular cause for activism is to blame food derivatives speculation for food shortages in developing countries.[1678] [1679] [1680] [1681] [1682] Some activists are calling for banning food futures contracts altogether or at least their trade in stock exchanges and other public markets.

What we need to understand first of all, is that when speculating with non-limited, producible resources where competition works fairly, any unfair profits speculators manage to make are mostly on the expense of other speculators.[1683] If future food prices are overestimated, the ones buying futures contracts at prices above the actual market price of the underlying good at maturity make a loss. It is completely possible that some big investors are purposefully increasing the market's volatility[1684], but they can only make profits in that way by causing others to speculate more than they themselves do. If they push prices up by buying vast quantities, they are the ones making a loss when they stop doing so and the prices crash.

Speculation based on real future demand and supply (production costs and quantities) is actually productive for the economy! Firstly, if investors are right in estimating a future food shortage, the "speculation" allows the system to adapt to these shortages in advance by increasing production and/or refraining from excessive consumption of the good, and such preemptive actions can partly prevent or alleviate such feared shortages.[1685]

Secondly, food producers issue futures contracts in order to protect themselves from price fluctuations. Regardless of the existence of any financial instruments, large swings in the prices of food commodities are inevitable, as the price elasticity of their demand is very low, while short-term price elasticity of supply[1686] is often non-existent. For example, a 1 % increase in the supply of coffee can result in a 5 % drop in market price. (Griffiths 2010, p. 17) People in developed economies are not going to eat much more food just because food becomes cheaper or eat less when it becomes more expensive.[1687] With coffee, there might be significant price elasticity in demand when it gets expensive enough, but as the data shows, the elasticity in Western countries with current prices is very low. As for the supply of crops, increasing the supplied amount within half a year would require going back in time to sow more seeds.

Futures contracts are therefore extremely valuable for farmers who can, by issuing the futures, secure their own livelihood and thereby pass the risks of price fluctuations on to investors who have more tolerance for such risks and capacity to absorb them. Similarly, large purchasers of basic food commodities – such as manufacturers of more advanced grocery products – can also hedge their procurement expense risks by buying such futures contracts.

Banning food futures would subject the farmers to much higher risks. The fact that these futures are traded freely on the stock market means that farmers have better chances to sell their futures and that anyone can hedge their future food expenses by buying these futures contracts! If they were not traded freely, it would mean that this privilege would be reserved for financial institutions and big users of food raw materials. For more on derivatives, see: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

Of course, one can argue that most African consumers don't have the access or knowhow to buy these futures contracts. But in any case, a question far more crucial than that of speculation is "why are African countries *importing* so much food in the first place?" Due to the natural advantages – compared to e.g. European countries – granted by both better growing conditions and lower labor costs, they should by all logic be food exporter countries. And if they were exporters of food, then they would *benefit* from rising food prices. As explained in "3.3.1 Solving Poverty for Good – Ending the Economy War", this is because of the protectionist farming subsidy schemes of (e.g.) the European Union, trying to maintain employment in its own agriculture sectors by any means.

1678 Vidal, John, "Food speculation: 'People die from hunger while banks make a killing on food'", The Guardian, 23rd Jan 2011, cited 26.5.2013, http://www.guardian.co.uk/global-development/2011/jan/23/food-speculation-banks-hunger-poverty

1679 Horton, Amy, "Speculating on Famine", World Development Movement, 6th Sep 2011, cited 26.5.2013, http://www.wdm.org.uk/blog/speculating-famine

1680 2011, "Food Speculation", viewed 26.5.2013, http://www.youtube.com/watch?v=rpM9XxJ-vo4

1681 2012, "Banks joining in food speculation fight", Al Jazeera English, viewed 26.5.2013, http://www.youtube.com/watch?v=4-oFpt9E-dI

1682 2012, "Food Speculation: a matter of life and death", viewed 26.5.2013, http://www.youtube.com/watch?v=ZDFWhFVQ6Uc

1683 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

1684 2012, "Speculation and Criminal Manipulation of Food and Commodities Prices", Interview with Michael Greenberger, The Real News, viewed 26.5.2013, http://www.youtube.com/watch?v=ydxWmWB_lzI

1685 "The Coming Bacon Famine And The Glory Of Speculation In Food", Forbes.com, 26th Sep 2012, cited 26.5.2013, http://www.forbes.com/sites/timworstall/2012/09/26/the-coming-bacon-famine-and-the-glory-of-speculation-in-food/

1686 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

1687 The income and trend elasticities of demand for simpler and cheaper food products can even be negative, as people shift to them (from more expensive foods and eating out) when their purchasing power in food drops (their income drops or food prices in general rise) or perceived income security decreases. So, when not controlling for price changes in other foods, the price elasticity of their demand can also be considered negative! Such goods are called Giffen goods. See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

Sidenote Box 332A: A Note to Vegans: The EU (or the Federal U.S. government) Eats Meat for You

Boycotting might have counterproductive effects in some instances, like when the idea would be to reduce the exploitation of cheap labor.[1688] This book's sister, The Guilt Economy, goes into this in more detail and also discusses how this kind of "ethical consumption" is very ineffective in solving global environmental problems – and will never solve them for good.

However, boycotting can affect production practices in other situations. One such case is reducing the production of goods that you don't want being produced at all. For example, if you are a vegan for animal rights reasons – you don't like the way animals are treated in our current industrial food production or you think killing animals or keeping them captive is "bad" in general – then, in a fair market, you can reduce meat production by buying less meat.

But sadly, this does not work very well in the current situation, because farming subsidies in the European Union and other Western countries exist to ensure that pig farmers don't lose their jobs. If you buy less meat, the reduced demand should lower prices to make it less profitable to produce meat. But now instead – as a result of the subsides – most of the effect of your boycott is eaten away because either:

- the surplus meat is thrown away or
- it is dumped cheaply into developing countries killing local industries, or
- the lower prices caused by the oversupply (a bigger drop compared to producer revenues than without subsidies) will entice others to eat more meat.

Some vegan activist groups hypothesize that eliminating both direct farming subsidies to animal farming and the crops industries producing feed for the farm animals would raise the price of meat so high that our current culture of eating meat would be largely eliminated. The prices would rise even more if – in addition to eliminating subsidies – all the environmental externality effects were included in the price of food, e.g. with Pigovian taxes and by banning unsustainable practices altogether.[1689]

Although some estimates on the "real prices" of meat products could be made by adding the planned taxes and current subsidies from all parts of the supply chain to the total costs, it is impossible to say exactly where the final prices and consumed quantities would settle without them.[1690] Added structural flexibility and changes in people's preference of profession affect labor costs in agriculture and for example the slaughter business, and alternative uses for farmland (e.g. fuel production) can affect the costs of farmed land (including taxes paid on it[1691]). And if meat becomes a very scarce and expensive good, the luxury and status value accrued from this can notably raise demand for it (a "Veblen effect"[1692]), as often happens to endangered animal species (Fishman) and in another sense has happened with the perceived value of alcohol in countries with high alcohol taxation.

What is almost certain is that meat production and consumption would significantly decrease if it were not subsidized and if all environmental externality costs of farming were included in the prices.[1693] However, this does not solve the ethical issues in how animals are treated. Campaigning for regulations regarding these will remain something for animal rights activists to do and, without farming subsidies, boycotting and certifications would be useful tools for such ends.

1688 See: "3.3.4 Slave-Rate Wages, Inhumane Working Conditions and Child Labor" and this book's sister "The Guilt Economy".
1689 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".
1690 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
1691 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
1692 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
1693 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

Food is yet another weapon – among many resources and commodities – that is used by nations fighting the ruthless economy war of indebting each other.

Killing the food independence of other, poorer, countries with the excuse of protecting your own country's food independence – and for the real ends of serving the interests of certain farmer groups and of protecting your own citizens' possibilities to save monetarily – is nothing short of pure evil.

But larger famines cannot be blamed on temporarily rising global food prices. When floods or draughts cause significant crop losses in some regions, the humanitarian distress is huge and difficult to offset with food aid from other places. Also, the carrying capacity of the whole planet is approaching its limits, as there are constantly more and more of us living on it. This carrying capacity is further threatened by unsustainable farming practices causing soil erosion and the climate change that threatens to possibly shift rains from fertile regions to less fertile ones[1694] – reducing the amount of arable land available. It is clear that to avoid large global famines, global population growth has to be halted in some more humane way – and fast.

But populations in developing countries keep on growing. The African population has grown around seven-fold in the past century and is expected to double yet in the next thirty years. Why is this?

The mechanism is fairly simple: Western medicine and partial development aid have allowed a higher survival rate of children into reproductive age, but because this aid is uncertain and living standards and social security have not improved significantly, people still have the same number of children as they did before, when a majority of them died out of malnutrition and diseases before getting to a fertile age. In many African cultures, children are traditionally needed as a "pension" and "health insurance": Without family, there is no one to take care of you when you are old and fall ill. In traditional agrarian societies, children are also a significant source of labor for plowing fields and taking care of their younger siblings. Labor productivity in these societies does not allow sustaining 10 people with two people's work. Of course, the other culprit maintaining large family sizes is that birth control methods are not affordable to the general public and that people are not trained to use them. But these are all fundamentally results of poverty and its main causes: the unavailability of education opportunities and blocked exports.

The effects of our catastrophe aid and marginal charity work are thus like that of taking one antibiotic pill per week to attempt to cure a bacterial infection if you can't afford the whole treatment: It only makes the problem worse and more resilient! Helping people survive through one famine, results in there being even more people dying when droughts or floods occur the next time. To quote standup economist Yoram Bauman, the "leading cause of death, of course, is birth".[1695] Although this was intended as a joke, birth, in fact, is a *necessary and sufficient cause* of death.[1696] As cruel as it sounds, whenever one has a child, one is effectively also condemning that child to (an eventual) death.[1697]

If we want to help e.g. African people change their lifestyle from a merciless struggle against the forces of nature into something closer to the Western relative abundance, we need to make sure people know what to expect and the transition needs to be relatively swift. This would require fostering education systems that allow these countries to compete with Western countries in a versatile range of industries.

As long as the living standards remain low and economic insecurity high, and there is no credible (publicly or privately arranged) retirement and unemployment insurance, the only social support or "retirement plan" will be children. And when there is no guarantee of nourishment and health care for them either, it is an understandable strategy to have as many as possible – just in case.

Of course, the culture of e.g. many African societies measures the status of a person or family according to the number of children. A person with no children and family can be considered a failure. But empirical observations suggest that these kinds of cultural traits change when living standards in a country rise. This is what happened in Europe during the industrial revolutions and more recently in many Asian countries. China hastened the process with its "one child policy", but a similar drops in child counts can be seen in other economically progressing countries – without any legal restrictions. The reason why the populations of these countries are still growing, is that people's life expectancies are rising: Fewer people are being born, but people are also dying later and later. When life expectancies have reached the levels of the developed world, population levels will start leveling out and slowly waning. Hans Rosling's TED Talks

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1694 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

1695 4:40->, Bauman, Yoram, "AEA 2013 Yoram – Hyperinflation in Hell", viewed 20.7.2013, http://www.youtube.com/watch?v=IsdSxk-qxZE

1696 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

1697 ...or at least has so far in history. And even if we managed to achieve immortality, the carrying capacity of the Earth is limited and a new person being born would eventually require someone to die. It is a more philosophical question whether a person "dies" if his consciousness is somehow transferred onto a non-biological avatar. See: "2045: A New Era for Humanity", promotional video, Russia 2045 Strategic Social Initiative, viewed 23.7.2013, http://www.youtube.com/watch?v=01hbkh4hXEk

"Stats that reshape your world view"[1698] includes a good demonstration of how child counts start decreasing after child survival rates first reach higher levels.

The problem is that when living standards rise too slowly – and especially when we are only rushing in to help in the case of bigger humanitarian crises – life expectancy increases without any significant effect on birthrates for a long time – the past century of Africa as an example. Thus, we would need to get rid of poverty in a fast and decisive manner, to provide enough economic security to remove the need to have children as a retirement insurance. This would require significant funding for education systems and allowing high current account surpluses for developing countries – and thus higher deficits for the developed world.[1699] For us to be able to afford anything such, we need to rid ourselves of our dependence on economic growth.

1698 Rosling, Hans, 2006, "Stats that reshape your world view", TED Talk, viewed 10.12.2012, http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

1699 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

3.3.3 Continuing Rampage of Curable Diseases

In short:

- ***Every year, millions of people die prematurely of easily curable or treatable diseases, simply because those people could not afford the treatments.***
- ***The relevant question here is why are people's living standards kept so low that they cannot produce enough market value to pay for the treatments.***

While many diseases – including AIDS and types of cancer – remain uncured, millions of people are dying of diseases for which modern medicine has invented effective treatments and cures decades ago, such as malaria, diarrhoeal diseases, tuberculosis, pneumonia and bronchitis.[1700] Why are these people then not being treated? Because the people suffering and dying from them cannot afford the treatments.

This has been the cause of constant debate over whether it would be ethically correct for developing countries to copy the patented medicines illegally. It has also been a major argument of "anti-moneyist" movements – the Zeitgeist movement as one example – aiming to get rid of a market economy altogether.

But blaming "money" is a little shortsighted and "throwing the baby out with the bath water". Money is just a tool for keeping track of credits and debts – how much people owe each other.[1701] Getting rid of money would by no means make medicine more accessible to people in developing countries and would rather halt the development of many new medications. The fact that they "cannot afford" the medicine, practically means that they don't have a way of producing as much market value as the medicine costs to produce. So rather than trying to (force other people to) give poor people medicine for free, wouldn't it be fairer to give them the chance to earn that medicine? Of course sick people cannot work, but if we allowed the nations to become competitive, they could afford to run a health insurance system that would not need to leave anyone stranded.

1700 "What is the deadliest disease in the world?" World Health Organization, cited 8.4.2013, http://www.who.int/features/qa/18/en/

1701 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

3.3.4 Slave-Rate Wages, Inhumane Working Conditions and Child Labor

In short:

- ***People working in inhumane conditions in factories, mines and sweatshops aren't threatened at gunpoint to do so. They work there because it is the best option available to them. The same applies to e.g. a big part of prostitution.***
- ***Boycotting products made with slave labor is therefore not a solution – not even a partial one, but rather makes the exploited worse off by depriving them of even that currently best alternative. Giving people more options of how to make a living is the solution.***

> "The wage gaps between rich and poor countries exist not mainly because of differences in individual productivity but mainly because of immigration control. If there were free migration, most workers in rich countries could be, and would be, replaced by workers from poor countries." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 23).

The actual "slavery institution," where people can *own* other people, has been mostly abolished. How then has "global capitalism" managed to enslave millions of people and make them work in inhumane conditions and on non-existent wages? No, the people in the sweatshops and mines are not threatened at gunpoint. The weapon is hunger and starvation.

People can be enslaved when they don't have a choice of how to make a living. As Nassim Taleb puts it:

> "Optionality will take us many places, but at the core, an option is what makes you antifragile and allows you to benefit from the positive side of uncertainty, without a corresponding serious harm from the negative side." (Taleb 2012, p. 171)

Or actually, a slave is better off than a person without options, as his owner has the incentive to keep him in good working condition – he is the owner's capital.[1702] People with no choice of how to make their living are expendable and disposable resources that can be worked to death without a financial loss and then replaced with other available, desperate people. The mechanism allowing exploitation of untrained workers in developing countries is the same as that of the "Iron Law of Wages" recognized over 100 years ago and that is still part of what polarizes income differences in the developed world.

"Competition" is a word with strong emotional charges and many meanings. For example Peter Nolan, in his book "Capitalism and Freedom", draws an unbreakable association between "competition" and "aggression":

> "Competitive markets are the essence of capitalism. Competition by its very nature involves aggression. Capitalist dynamism stems from the energy arising from aggression." (Nolan 2007, p. 3)

But, in economics, "competition" essentially means optionality! That something is competed over, means that that object of competition has options. It is an interesting conclusion (made by Nolan and many others) that all kinds of choosing between things implies aggression between the alternatives that one chooses from (consider e.g. the "relationship market").

If people always had a choice over how to make their living – if there was always competition over employees – no one could be forced to work in any inhumane conditions.[1703] The labor market would for once be fair. The problem in most "developing countries" – or should we rather call them "underdeveloped countries" to be more realistic but politically correct – is not so much that the work available in those countries is not shared to those who are willing to spend – most people already live hand-to-mouth. The problem is that they, as a whole, do not have enough opportunities to contribute. Not only the governments but also the whole national economies of poor countries are constantly being further indebted by their chronically negative current accounts. The only way to turn this around is to help them develop competitive education systems and remove export barriers to the developed world. This would allow people in these former "banana republics" to have more choices of how to provide for themselves and their families.

1702 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
1703 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

Although boycotting might have worked well in the 18th century in the fight against actual slavery and is still a way of making an impact in many cases,[1704] against cheap labor it is a counterproductive measure. When the threat is not violence, but starvation, taking away the best earning opportunity there currently is – no matter how bad it would be – only makes the people even worse off and further tightens the competition over earning opportunities (currently quantized into "jobs") in these countries.

So-called "Fair Trade" is not a solution either, but rather a way of creating inequality *within* the poorer countries. How can it be "fair" to pay some workers more than others doing similar work in the same region? People are much more annoyed with their neighbor earning more than someone in another country earning more. How would you like it if you were, say, a Finnish programmer, and a Norwegian client, horrified by how badly your employer pays you, decided to rather buy his IT systems from another Finnish company that pays its employees double your salary? You'd likely be paid even less or lose your job completely.

It is also worth noting that Fair Trade only raises the incomes of those working in export industries, who are usually the ones in the country with the highest wages already. Such discrimination is likely to make living expenses higher and real wages yet lower for others in the developing country.

How Fair Trade is yet another form of our modern indulgence trade that allows individual Westerners to treat their consciences by disassociating themselves from something they consider "bad" is discussed in further detail in "The Guilt Economy – Rage Against Our Medieval Money Morals."

The main problem with prostitution, as well, is that many people are forced into it because of the absence of other proper earning opportunities. As "brothel king" Dennis Hof says:

> "They're doing it [prostitution] because they want to. Because they don't want to work for what society pays. Or they want to have a job, where they can make a good amount of money in a short period of time and they go lay on the beach in Hawaii or work on their studies or their career in music or dancing or whatever they want to do."[1705]

Trying to reduce exploitative prostitution by banning or restrict it[1706] is very ineffective: It is likely to drive sex trade into the hands of organized crime – *increasing* human trafficking, the spread of STDs and the involvement of drugs. Ensuring that people always have other options of how to earn their living is the most effective way to allow people to live by their values.

1704 See: "Sidenote Box 332A: A Note to Vegans: The EU (or the Federal U.S. government) Eats Meat for You".

1705 13:55->, "The Brothel King: Dennis Hof on Prostition, Wild West Libertarianism, and Pimpin' for Paul", ReasonTV, viewed 14.7.2014, https://www.youtube.com/watch?v=iUMheDNZLgA

1706 ...which is a likely outcome under a governance system where it pays for politicians to hypocritically focus on associating themselves with things that sound good. See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

3.3.5 Resource Wars and Sustained Political Instability

In short:

- *Even without sufficient evidence that Western countries would actively be sustaining armed conflicts in other parts of the world, it is clear that resolution of such conflicts is not currently in the interests of the Western countries, as it would likely increase competition over production and investment (jobs) as well as make natural resources extracted from these regions more expensive.*

> "War is the continuation of *Politik* (Policy or Politics) by other means." – Carl von Clausewitz

> "War is not the continuation of politics with different means, it is the greatest mass-crime perpetrated on the community of man." – Alfred Adler

> "I have mentioned in passing that the new system might be more favourable to peace than the old has been." … "War has several causes. Dictators and others such, to whom war offers, in expectation at least, a pleasurable excitement, find it easy to work on the natural bellicosity of their peoples. But, over and above this, facilitating their task of fanning the popular flame, are the economic causes of war, namely, the pressure of population and the competitive struggle for markets." – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 240)

War is one institution around which many organizations and structures have been created; the army, intelligence agencies, and the arms industries among them. And these organizations and institutions are all dependent on the war institution: at least the possibility and threat – if not necessity and righteousness – of armed conflict. As this threat is currently mostly between nation states, the war institution is also fed by the nationalism institution (which was especially strongly visible in both World Wars). As discussed more generally in "5.1.4 Institutional Interests – Rogue Agents without a Principal", when an organization or institution is created (or it emerges to) treat a symptom or to fight or defend against an enemy (instead of e.g. creating a project with a clear objective of solving a problem for good), the institution has a strong incentive *not* to destroy that enemy permanently, remove the threat or solve the cause of the symptoms for good, as its own *raison d'être* depends on the existence of that enemy, threat or symptom.

Therefore war is also – in part – a self-sustaining and self-preserving institution. Armies and intelligence agencies all have the incentive to maintain the perception of external threats – and theoretically even to actually *increase the threats* to do so. And when significant sums have been invested in armed forces, nations also have incentive to search for potential "application opportunities" for all that "arms capital", which is already a sunk cost. (Most historians agree that among the "causes" of the First World War – along with nationalism – were imperialism and militarism including the massive arms race preceding it. (Holger & Hamilton 2003, p. 11-12) Donald Rumsfeld's recount of the discussions leading to the invasion of Iraq is descriptive of the political influence that army officials have on foreign politics:

> "The reason I was concerned about Iraq is 'cause four-star generals would come to me and say: 'Mr. secretary, we have a problem. Our orders are to fly over the northern part of Iraq and the southern part of Iraq on a daily basis with the Brits and we are getting shot at. At some moment – could be tomorrow, could be next month, could be next year – one of our planes is gonna be shot down, and our pilots and crews are gonna be killed, or they're gonna be captured. The question will be: What in the world were we flying those flights for? What was the cost-benefit ratio? What was our country gaining? So you sit down and you say: 'I think I'm gonna see if I can get the president's attention: *remind* him that our planes are being shot at, *remind* him that we don't have a fresh policy for Iraq, and remind him that we've got a whole range of options.' Not an obsession [with Iraq]. A very measured, nuanced approach – I think."[1707]

Additionally, the institution of war has been "legitimized" for example with concepts like "war crimes" and "war justice": In a sense, war – people of two sides killing each other – has been accepted by the global community (including the UN) as one possible way of solving conflicts

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1707 1:35->, Morris, Errol, 2013, "The Unknown Known Movie CLIP – I Think", documentary trailer, viewed 27.5.2014, https://www.youtube.com/watch?v=tlvgdrL42O8

or getting what one side wants. If we are going to put rules on war, then why not make killing in general a war crime and declare that all "wars" should be settled with e.g. football matches? Essentially, when everything is at stake, no one cares about rules.[1708] Only certain winners can afford some consideration of "war ethics."

Unfortunately, it is in the interests of many powerful nations to keep the leverage of the threat of military action on the negotiation table. And "war legislation" is an important part of turning these tables.[1709] "War is the continuation of *Politik*[translates to 'Policy' or 'Politics'] by other means," as Carl von Clausewitz wrote.

However, if institutional self-preservation was the only thing maintaining armies and conflicts between nations, the conflicts wouldn't be on a very strong ground, as cooperation would be more beneficial in the long-term (as in any iterated Prisoner's Dilemma). So what is it that is preventing countries from cooperating for everyone's good? A lot is often blamed on religious and other ideological conflicts of interest – those in the Middle East as prominent examples. And for many people the conflicts might truly be of such nature. But from the perspective of Western countries, the ideologies of the people fighting are largely irrelevant. What matters are the effects of the conflicts – and a potential peaceful resolution thereof – on their own economies.

A major factor sustaining regional instability and the recurrence of armed conflicts is the underlying economy war, which is a major taboo subject in international politics: No country can afford to be satisfied with a zero current account balance, as they want to keep their own citizens employed while maintaining their holy right to monetary saving – which results in all countries trying to indebt each other by any means.

Competitiveness is of course spoken of openly,[1710] but as if every country could be "more competitive" – when in reality price competitiveness (unlike e.g. productivity) is relative: having a "competitive advantage" means having it over another nation.[1711] Firstly, this need to compete urges on the battle for limited natural resources – especially ones that allow for jobs of high monetary productivity and therefore profitable industries, such as fossil oil,[1712] military coercion if necessary. As former head of the C R. James Woolsey says:

> "I've served in four administrations in president appointments, all in different aspects of nation security. The fact that two-thirds of the world's prov reserves of oil are in the Middle East and we are dependent on that part of the world is a very national security question."[1713]

And as George W. Bush confessed in his State of the Uni address on January 31st 2006:

> "And here we have a serious problem: America addicted to oil."[1714]

And secondly, this need to remain competiti incentivizes keeping other nations uncompetitive an unproductive, as explained in "3.3.1 Solving Poverty Good – Ending the Economy War", giving a significa incentive to sustain regional conflicts and instability – at least not to do everything possible to solve them.

Only those attempting to be "politically correct" avo mentioning the possibility that securing natural resourc might have had something to do with the wars the Unite States and its allies waged in Iraq and Afghanistan in t past decade. The economy war between nations is th not always limited to economic tools, but "diploma is extended" to military means every now and the "Confessions of an Economic Hitman" by John Perkin (2005) provides one perspective into this dynamic.

Especially when trying to be politically correct, it is eas to dismiss such speculations on alternative motives a "conspiracy theories" or malevolent enemy propagand However, it cannot be denied that the underdevelopmen of countries producing oil and other critical resources in the interest of more developed countries – regardles of whether there is any proof that they'd be activel supporting or prolonging such underdevelopmen by intentionally sustaining conflicts in these region

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1708 "International rules do not work when soldiers are in constant fear for their lives, worried that a civilian may pick up a rifle and shoot them. It must also be remembered that the greatest deed in war is the speedy ending of the war. And every means to that end must remain open." – 19:50->, "The First World War - Episode II: Under The Eagle (1914-1915)", HQArena, viewed 4.6.2013, http://www.youtube.com/watch?v=DwNcZq1UnF4

1709 E.g. what good are land mines to the U.S. or other big military powers who haven't fought a war on their own soil for centuries and are not planning to do so? And of course everyone is against the spreading of nuclear weapons – as long as they get to keep some of their own.

1710 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

1711 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game - Comparative Advantage vs. Absolute Advantage".

1712 A common perception (and the background plot of a number movies and novels) is that countries that are fighting for oil would b fighting for "cheap energy" and that therefore a hypothetical source unlimited, cheap energy like cold fusion would end all wars. But actual such a discovery would currently be a catastrophe for most economi – as it would destroy millions of jobs! Oil is mainly coveted because brings *high-paying jobs* and thereby possibly large trade surpluses - if t currency can be kept from appreciating excessively as a result of the *source curse* (See: "3.1.6.3 The U.S. Case – Chronic Overvaluation of t Global Reserve Currency").

1713 1:24:20->, "Who killed the electric car?" documentary, Sony Picture Classics.

1714 1:26:41->, "Who killed the electric car?" documentary, Sony Picture Classics.

The worse-off oil producing developing countries are economically,

- the more they are dependent on exporting oil and therefore unable to restrict the oil supply and raise prices,
- the less they are able to build their own enterprises to exploit these resources and get the capital income into their own national economies, but instead have to allow foreign companies to reap the profit part of the revenues, and
- the more of the higher-paying (e.g. ones requiring higher education) "jobs created" that come with the investments go to people in the developed world.

Let's consider – as a thought experiment – the case of Iran's nuclear power program. The official argument that the rest of the world uses in trying to persuade Iran to drop its agenda to develop nuclear power plants are fears that Iran might use the power plants for the development of nuclear weapons of mass destruction. Yes, it makes sense that Iran would want to have a nuclear weapon, as other influential countries in the region have some (Israel, India, Pakistan etc.) and the Gulf is full of submarines and battle ships with the capability of launching nuclear missiles. Not having nuclear weapons leaves the nation at a significant disadvantage in any political negotiation.

However, what Iran needs even more than nuclear weapons – also in terms of negotiation leverage – are other energy sources than oil. Many countries in the Middle East would be extremely interested in developing sustainable forms of energy production, as this would provide a much more solid basis for their economies, which are now dependent on oil. Other local energy sources would allow leaving more of that oil for export and better controlling the price at which they sell it. The Masdar "Green City" project[1715] launched in Abu Dhabi in 2006 is just one emblem of broader ambitions of such technological and economic development in the Middle East.

Brazil has been an exemplary success story in such diversification and progress. Despite vast oil reserves, it is producing over 90 % of its own electricity with renewable energy sources (although the environmental impacts of its hydropower projects are devastating[1716]), a majority of its new cars sold in the country since 2007 were "flexifuel cars" capable of running on ethanol,[1717] and ethanol surpassed fossil petrol in used fuels in 2008.[1718]

1715 "What is Masdar City", MasdarCity.ae, cited 4.6.2013, http://masdarcity.ae/en/27/what-is-masdar-city-/

1716 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

1717 "Participação de carros flex nas vendas volta a bater 94%", UNICA, 8th Sep 2009.

1718 Agência Brasil, "ANP: consumo de álcool combustível é 50% maior em 2007", Terra, 15th Jul 2008, cited 4.6.2013, http://economia.terra.com.br/noticias/noticia.aspx?idNoticia=200807152306_ABR_77211977

Villarreal, Ryan, "How Brazil Turned Ethanol Into A Unique Success", International Business Times, 8th Feb 2013, cited 4.6.2013, http://www.ibtimes.com/how-brazil-turned-ethanol-unique-success-1064308#

1719 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

1720 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

1721 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.2 Other Scapegoats for the Mystical Growth Dependence".

Understandably, such a development in the Middle East would be very dangerous from the point of view of the oil importing Western world, whose economies are dependent on cheap oil to continue growing enough to keep all of their citizens employed. Therefore, anything that might slow down technological and economic development in the Middle East would benefit Western countries economically. Whether Western countries are actively or passively prolonging any conflicts or promoting instability in e.g. the Middle East is a completely different discussion requiring tons of background research.

For Western countries to really have an incentive to help solve the conflicts in the Middle East for good, they'd need to:

- not be as vulnerable to changes in oil prices as they are now[1719] and
- not be dependent on keeping their current account balances positive by any means[1720]

And to fix both of these dependencies, they'd first need to get rid of their economies' dependence on growth.[1721]

3.4 ENVIRONMENTAL SUSTAINABILITY

In short:

- *The main obstacles to solving environmental sustainability challenges are our economies' dependence on growth and the resulting "economy war" between nations. Fixing the Root Bug would remove these, making many otherwise fairly obvious solutions economically feasible.*

"I said, 'Oh really? Really, there's a green revolution going on here?! … "Have you ever been to a revolution where no one got hurt?" … "The 'green revolution' we're having is a complete fraud – as far as I'm concerned. Because in this revolution everyone's green: Yeah, Exxon's green, BP's green…" … "The global economy today, friends, is like a monster truck with the gas pedal stuck and we have lost the key. And the only way we're going to catch that truck is with a *disruptive* breakthrough. And the only way we're going to get a disruptive breakthrough, is with a completely different mix of standards, regulations, incentive and taxes that will trigger that disruption. Which is why my fundamental rule is: 'Change your leaders, not your light bulbs.'" – Thomas Friedman[1722]

"Under capitalism, growth and jobs are more often than not at odds with environmental protection. There may be some win-wins here and there. But for the most part, given capitalism, imposing big cuts in greenhouse gas emissions means imposing big job cuts across industrialized economies around the world. That's why, regardless of protests, no capitalist government on the planet will accept mandatory cuts in GHG emissions." … "[N]o capitalist government on Earth can impose 'green taxes' that would drive the coal industry or any other industry out of business, or even force major retrenchments by suppressing production because, among other important reasons, given capitalism, this would just provoke recession and mass unemployment – if not worse." – Richard Smith[1723]

Most environmental researchers and engineers would agree that we have the needed technological capabilities to solve all of our environmental sustainability challenges or that those capabilities could be developed fairly quickly if only the right investments were made. But why don't we make those investments and solve these problems? Are we just lazy, selfish or ignorantly shortsighted? No. It is simply an "economic reality" that we can't "afford to". This is yet another reason for "anti-capitalists" and "anti-moneyists"[1724] to demonize money and the market economy altogether and insist that capitalism is an inherently flawed system. And they are right in that our current system has a fundamental flaw. But they are throwing the baby out with the bath water by blaming money and markets in general.

Now, what exactly does it mean that we "can't afford to" solve our environmental sustainability issues? Labor productivity has increased significantly during the past hundred years and keeps on growing at approximately 1-2 % per year.[1725] (Gomez-Salvador et al 2006) Doesn't that mean we should be able to afford much more than we did before?

Yes, people's standard of living would drop momentarily as a result of stricter environmental regulations or e.g. Pigovian taxes on fossil fuels, but so it should, as current production methods keep passing costs on to future generations. The biggest trouble, however, is not the decreased purchasing power or additional work caused by the drop in labor productivity, but – on the contrary – the possible decrease in earning opportunities (jobs)! Due to positive feedback mechanisms in the real economy[1726]

1722 41:35->, 42:54-> & 45:23->, Friedman, Thomas, "The World Is Flat 3.0", MIT Video, lecture at MIT, 28th Nov 2013, cited 8.1.2014, http://video.mit.edu/watch/the-world-is-flat-30-9321/

1723 Smith, Richard, "Green Capitalism: The God That Failed", Truthout, 9th Jan 2014, cited 22.1.2014, http://www.truth-out.org/news/item/20...green-capitalism-the-god-that-failed

1724 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Kn... What We Need'".

1725 Possibly even more, as a lot of productivity improvements are ... caping metrics. See: "1.3.1 Economic Growth Is the Increase in Produ... and Traded Value – The Many Meanings of 'Wealth'."

1726 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unempl...

even a small increase in the prices of goods could result in a *drop* in total demand: Higher real prices might make people consider fewer goods worth buying. And this could nudge our economies into a chain reaction of recession and economic collapse. That is why we cannot afford to let the prices of fossil fuels rise or implement any new environmental restrictions that would increase costs of products or slow down the launch of new ones. As Jeff Rubin writes:

> "Over the last four decades, each time oil prices have spiked, the global economy has entered a recession."[1727]

The "affordability" of solving environmental problems is not a matter of limited resources, but of the system's fragility and the high social and economic costs of unemployment.

Without these self-reinforcing mechanisms, there would be no reason why we couldn't afford to let the prices of natural resources rise to levels that would keep their use sustainable. If available earning opportunities were always allocated to people according to their willingness to spend and invest[1728], people not considering some products worth buying would just result in people working less – not in any depression.

However, it is possible that without the *fear* of long-term unemployment, the environmental regulations might even increase the amount of work available. Firstly, the total demand for goods and services might not decrease as much as labor productivity decreases (i.e. as much as producing them requires more work) as a result of the environmental restrictions and Pigovian taxes.

Secondly, the aggregate demand model, which predicts that higher prices should reduce the total demanded amount, does not include expectations of future price changes. If consumers and companies know that the costs of unsustainable products will continue to rise (as a result of e.g. constantly rising carbon taxes[1729]), those who just want to get the most direct personal benefit will consume and make their investments sooner rather than later! Meanwhile, knowing that sustainable alternatives (e.g. renewable energy) will become increasingly affordable with the scale benefits of increased future demand and investments into them, consumers will also be less hesitant to make the investments into for example electric cars earlier on. One of the biggest obstacles for making such decisions is that oil can be expected to remain affordable in the future and thus not only is the development and commercial roll-out of sustainable options slowed down, but there is more uncertainty regarding which standards of sustainable alternatives – if any – will become dominant, and this significantly increases the risks of investing.

The only way we can afford to solve our global sustainability problems in time – if we haven't already passed the point of no return – is to free our economies of their growth dependence by decoupling the demand for employees from the demand for labor. Before that, countries cannot stop spurring economic growth by any possible means or stop fighting the economy war of keeping up their own current account surpluses.

The following chapters present simple, possible solutions to some environmental sustainability issues that we could implement easily and quite painlessly – if we just weren't dependent on growth.

3.4.1 Global Warming and Dependence on Fossil Fuels

In short:

- ***If we want to stop the potential climate change and its unpredictable consequences, we need to get rid of the use of fossil fuels altogether within years (though even that might be too late).***
- ***This could be done easily with constantly, predictably rising carbon taxes if countries weren't locked into the economy war and their growth dependence.***
- ***Climate change is a long-term issue, where cumulative total carbon emissions matter. Focusing on cutting annual emissions (as we do now) is shortsighted and hypocritical conscience treatment.***

> "Formula for success: rise early, work hard, strike oil." – J. Paul Getty

> "Oil creates the illusion of a completely changed life, life without work, life for free. Oil is a resource that anaesthetises thought, blurs vision, corrupts." – Ryszard Kapuscinski, Shah of Shahs

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ment and Growth Dependence".

1727 Rubin, Jeff, "How High Oil Prices Will Permanently Cap Economic Growth", Bloomberg News, 24th Sep 2014, cited 8.9.2014, http://www.bloomberg.com/news/2012-09-23/how-high-oil-prices-will-permanently-cap-economic-growth.html

1728 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest."

1729 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

> "[P]olicy targets based on limiting cumulative emissions of carbon dioxide are likely to be more robust to scientific uncertainty than emission-rate or concentration targets." – Myles Allen et al, Warming caused by cumulative carbon emissions towards the trillionth tonne (2009)

> "Green policies do not require significant public spending. Carbon pricing can raise revenues, while standards and regulations can change producer and consumer behaviour at little cost to the public purse." ... "[I]n many countries, even where climate policy exists, a major barrier to private investment in the green economy is a lack of confidence in key policy frameworks, such as a long-term carbon price, and the longevity and stringency of emissions and renewable energy targets. But this 'policy risk' resides in the hands of policy-makers." – Dimitri Zenghelis, A strategy for restoring confidence and economic growth through green investment and innovation (2012, p. 19 & 20)

Human activity has been shown to influence the global climate by increasing the number of so-called "greenhouse gases" in the atmosphere – gases that trap more of the sun's radiation energy as heat. The potentially catastrophic effects of this influence have been acknowledged for decades now.

The (potential) climate-changing effect of greenhouse gas emissions is a clear example of *an externality* in economic activity[1730] – an outcome affecting others than the parties participating in the decisions regarding an activity or transaction (e.g. driving a car running on gasoline or consuming energy produced using fossil coal) and the costs of which are thus not taken into account in the decision process. These externalities result in economic decisions that are not efficient in regards to the whole system in the long run. The externality of the depletion of a limited resource as a result of every agent acting according to their self-interest is also referred to as the Tragedy of the Commons.

Economist Arthur Pigou, who is often considered the father of the concept of externalities,[1731] suggested that activities producing negative externalities should be taxed to compensate for the costs that they cause to the society. His theory suggests that if set correctly, such taxes – nowadays referred to as "Pigovian Taxes" – would again make the market work efficiently towards the benefit of all members of the society.

When talking about renewable natural resources, their consumption in moderate quantities might not have any externality costs – to current or future generations. An example is harvesting the fish population of a sea within its regeneration capacity. However, excessive consumption can cause the resource to be consumed to a level that starts harming its regenerate capacity. In the fish example, this would mean fishing the population to near extinction. In such cases, the market can be made to work fairly and sustainably by a government owning these limited resources and auctioning out a sustainable amount of use quotas. Trading such quotas is called Coasian bargaining. In the case of a fish population, this would mean selling fishing permits.

What would be the best way of applying Coasian Bargaining and Pigovian taxes to solving the problem of greenhouse gas emissions? The two major greenhouse gases are carbon dioxide and methane. Methane is many times stronger a greenhouse gas by mass unit, but the amount of carbon dioxide in the atmosphere is over 200 times that of methane (0.0039445 % compared to 0.0000179 %).

Biological processes – especially the rotting of dead biomatter – constantly produce additional methane, but the amount of methane in the atmosphere is kept in check through reactions with hydroxyl radicals and water vapor. By this oxidization process, methane naturally "decays" out of the atmosphere with a half life of around 7 years. This is why the global warming potential over 100 years of methane is "only" 25 times that of CO_2 although over 20 years it is 72 times that of CO_2.[1732]

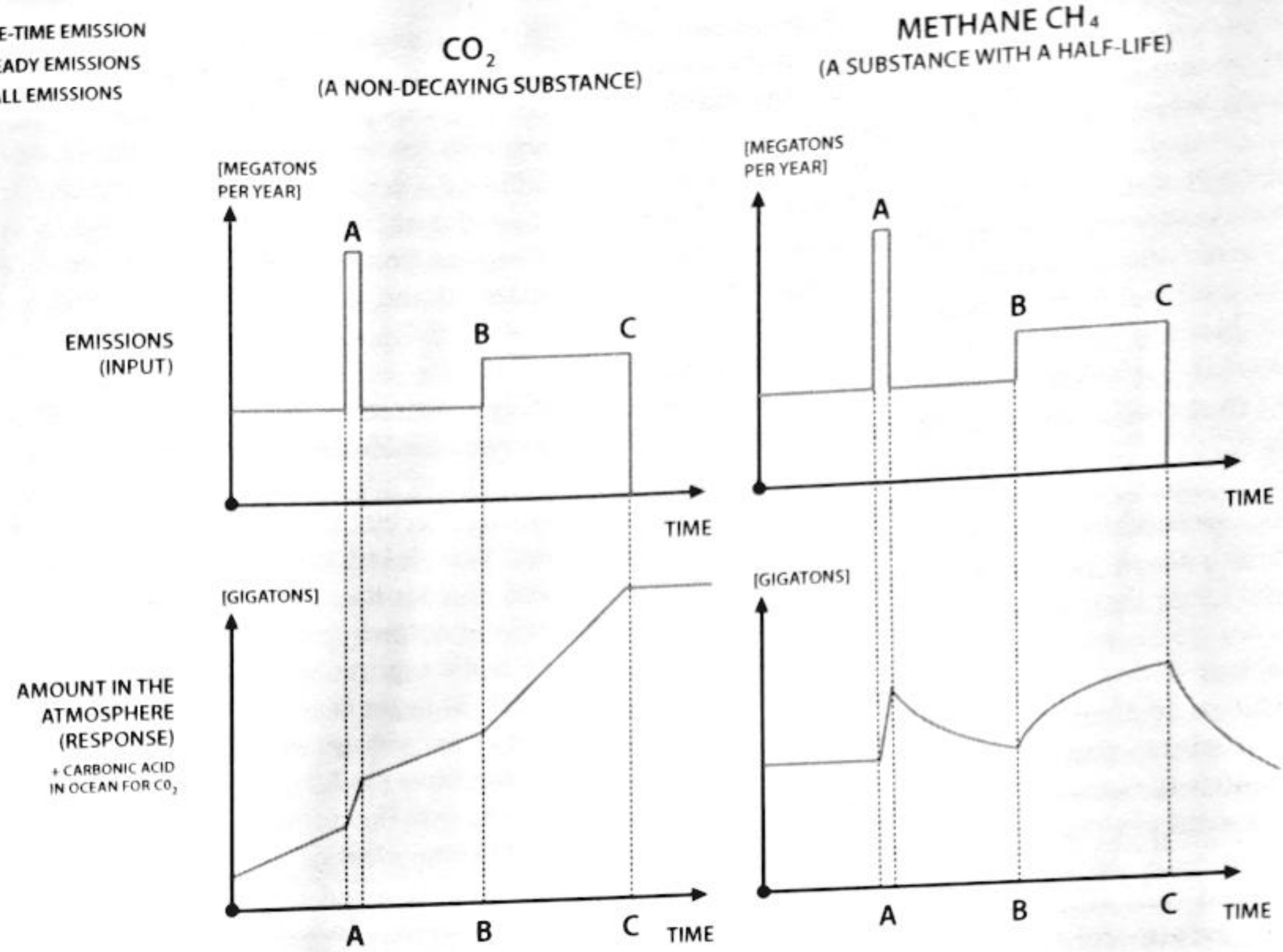
However, human activity has notably increased the output of methane, increasing also the amount of methane in the atmosphere. Main "anthropogenic" – i.e. human-caused – sources of methane emissions include:

- Agriculture: Increased growing of cattle and other livestock is the main component (over a third of anthropogenic methane emissions), but also other farming (most notably rice fields) increase the amount of methane released, as bacteria are not as capable of consuming the methane produced

1730 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

1731 ...although he preferred to talk about the "divergences" between the "the marginal social net product" from "marginal private net product." (Hovenkamp 2009, p. 635-636) See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

1732 "Methane", Phys.org, cited 27.3.2013. http://phys.org/tags/methane/



GRAPH 36: THE (ROUGH) RESPONSE TO ATMOSPHERIC (AND OCEANIC) CO_2 AND METHANE LEVELS FROM DIFFERENT KINDS OF (FICTIVE) CHANGES IN EMISSIONS.

in farming compared to that produced in natural environments.

- Leaks of natural gas in extracting, transporting, refining and using fossil fuels.
- Water purification plants and landfill.

Methane decays from the atmosphere with a half life: The more methane there is the more methane also decays. Therefore, the methane emission rate (emissions per time period, e.g. annual emissions) determines the level to which the amount of methane in the atmosphere settles in the long run. Therefore, the amount of methane does not constantly grow *at* the rate of emissions, as is the case with carbon dioxide emissions from fossil fuels.

Graph 36 is of course a very rough, theoretical illustration of the difference in how contents of each kind of gas in the atmosphere respond to fictive changes in emissions. In reality, the concentration of CO_2 in the atmosphere *does* decline after an initial point emission, largely due to the fact that oceans can absorb almost half of it as carbonic acid. [1733] [1734] This is why the graphs on the lower line in Graph 36 also includes this additional carbonic acid in oceans. However, this absorption capacity is declining[1735] and the process might even be set on reverse as seawaters warm up. (IPCC 2007; McKinley et al 2011) There is also good reason to be concerned for the quantity of CO_2 that oceans absorb, as the resulting acidification of oceans has other distorting effects on its ecosystems.[1736] If anything, this makes an even better case for trying to eliminate all human-caused CO_2 emissions.

However, we don't need to get rid of *methane* emissions altogether, as the atmosphere's "methane capacity" is "renewable". If we consider there to be a need to limit methane emissions, governments can set fixed quotas on methane producing activities, like cattle farming and auction off these permits.[1737] Buying these permits could be avoided by finding technologies to harvest or burn

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1733 "How the oceans absorb carbon dioxide is critical for predicting climate change", PMEL Carbon Program, cited 30.9.2013, http://www.pmel.noaa.gov/co2/story/Ocean+Carbon+Uptake

1734 Note that this absorption as carbonic acid is not the same as a more steady absorption by plankton, which is more constant and does not result in acidification. See, e.g. Ogburn, Stephanie Paige, "Oceans May Absorb More Carbon Dioxide", Scientific American, 20th Mar 2013, cited 30.9.2013, http://www.scientificamerican.com/article.cfm?id=-oceans-may-absorb-more-carbon-dioxide

1735 "New study suggests oceans are losing the ability to absorb carbon dioxide", The Carbon Brief – The Blog, 11th Jul 2011, cited 30.9.2013, http://www.carbonbrief.org/blog/2011/07/climate-change-sinks-ocean-sink/

1736 "Ocean Acidification: Carbon Dioxide Is Putting Shelled Animals at Risk", National Geographic – The Ocean, cited 30.9.2013, http://ocean.nationalgeographic.com/ocean/critical-issues-ocean-acidification/

1737 See: "4.3.3 Other Natural Resources, Renewable or Non-Vital".

off the produced methane. However, it is questionable whether methane alone would be a threat at all in terms of global warming and whether any methane regulation is really needed.

The biggest threat regarding methane is not the direct anthropogenic increase in emissions, but that the total anthropogenic global warming will trigger a massive release of methane from methane clathrate found in the sediment beneath seas and in permafrost (Max 2003). This risks starting a chain reaction that would shift global warming on a whole new gear. (Zimov et al 2006) [1738] [1739] The only way to prevent this is to stop the climate change process early enough by getting rid of other greenhouse gas emissions. And in terms of these, the total, cumulative amount of carbon in the atmosphere is a far more significant factor than anthropogenic methane.

The problem with CO_2 is that it does not "decay" into anything else in the atmosphere – it is the low-energy product of other compounds being oxidized. The only way to reduce the amount of CO_2 in the atmosphere is to take carbon out of the atmosphere and tie it to something else. Carbon – the element – is not destroyed in significant amounts and thus any carbon not tied to anything else will be in the atmosphere – and carbon dioxide is one of the alternative with the lowest *global warming potential* of carbon compounds.

Most natural organic processes and human activities based on them, such as farming, are carbon neutral in the long run. This includes rainforests as a whole, where debris decays at the same rate as it is produced and therefore the humus layer does not thicken – the amount of biomatter tying down carbon does not increase. Actually rainforests could end up being net *carbon sources*, as global warming starts hampering the growth of trees and plants. (Rosner 2006) Some other types of forests and swamps gather humus, dead organic matter and are thus not completely carbon neutral, but "carbon sinks". Such accumulated biomatter from millions of years ago is also the original "raw material" of fossil fuels.

Thus the problem with CO_2 emissions is the use of fossil fuels because it reduces the amount of tied down carbon in the long run and hence increases the amount of carbon in the atmosphere. This CO_2 takes tens or hundreds of thousands of years to be reabsorbed out of the atmosphere (Archer 2005). The effect of clearing forests is minimal, as the whole living terrestrial biosphere is estimated to contain only 600-1000 gigatons of carbon (compared to 700 gigatons present in the atmosphere), while fossil fuel reserves found by year 2000 were already 4130 gigatons (3510 of which was coal) with constantly more being located and made accessible by new technologies, and kerogens (some types of which form potential sources of shale oil and gas) contain 15 million gigatons of carbon (Falkowski et al 2000)

"Cap n' trade" schemes, like the emissions trading allowed under the Kyoto Protocol, are practically Coasian bargaining systems on carbon emissions. They have been strongly criticized – and for good reason. They do not apply to all industries equally, and they punish countries and companies for earlier progress when the allowances are set according to current or previous emission levels (as with e.g. the Kyoto Protocol). Also, such schemes are costly to supervise and all the exceptions make it a prime target for corruption and a tool for gaining benefits and competitive advantages through political lobbying. Changes in the number of permits available are significant wealth transfers from companies in possession of permits to companies not in possession of permits. The effect of the emission allowances on the price of electricity also has direct effects on the profitabilities of energy companies (Oberndorfer 2009), and the share prices of companies holding allowances dropped dramatically for example in April 2013 when the European Parliament rejected the "backloading plan" of cutting the number of emissions allowances to raise their prices.[1740]

Even without such political risks, the fluctuations in prices of emissions allowances – and hence the risks involved in trading them – are big (Beatty & Williams 2009, p. 355)[1741] as the demand for the quotas isn't very price-elastic – resulting partly, from low (short-term) price elasticity of the demand for energy, which is one of the most carbon-intensive industries.

Also, there is hardly a simple and fair way of allocating allowances to new market entrants. Currently, there is also lots of room for local politicizing in the allocation of allowances in general. This, as a potential entry barrier, further distorts fair competition and hampers new

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1738 "Thawing of Permafrost Expected to Cause Significant Additional Global Warming, Not Yet Accounted for in Climate Predictions", Science Daily, 27th Nov 2012, cited 3.4.2013, http://www.sciencedaily.com/releases/2012/11/121127094250.htm

1739 "UN: methane released from melting ice could push climate past tipping point", The Guardian, 27th Nov 2012, cited 3.4.2013, http://www.guardian.co.uk/environment/2012/nov/27/doha-climate-conference-un-methane

1740 "Analyytikot: Fortumin kurssilasku perusteltu", Kauppalehti, 16th Apr 2013, cited 27.9.2013, http://www.taloussanomat.fi/porssi/2013/04/16/analyytikot-fortumin-kurssilasku-perusteltu/20135518/170

1741 "Buyers and sellers must be wary of the potential for the price of carbon credits to fluctuate over the period of delivery. Such movements can significantly impact on the value of the benefits obtained by each party under the contract. The price volatility in the carbon market and the long-term nature of many carbon credit contracts means that market price risk is an essential consideration in any carbon credit transaction." (Beatty & Williams 2009, p. 355)

innovations in carbon-heavy industries. (Deketelaere & Schurmans 2009, p. 273 & 282) [1742]

But the most fundamental defect in carbon cap n' trade systems as a solution to climate change threats is that the set total quotas are based on earlier emission levels, which by far exceed long-term sustainable levels. Therefore it doesn't provide any incentive to reduce total emissions – it only, at best, makes it harder to increase them.

Björn Lomborg's Copenhagen Consensus criticizes current climate change combatting measures for producing more costs than providing future benefits. Even if their own suggested solutions (putting the responsibility over green R&D investments on the government and refraining from making fossil fuels more expensive[1743]) don't make much economic sense either,[1744] their criticism is valid in that reducing annual emissions does not make any sense as an objective. The potential effects of global warming may last centuries or millennia and, in this sense, it makes hardly any difference whether the emissions causing them occur during 30 or 50 years. E.g. professor Myles Allen and his colleagues present evidence that cumulative CO_2 emissions are a far better predictor of long run global warming than annual emissions. [1745] [1746]

> "Hence policy targets based on limiting cumulative emissions of carbon dioxide are likely to be more robust to scientific uncertainty than emission-rate or concentration targets." (Allen et al 2009)

Pigovian taxes would be a much more useful and less corruptible solution in this case. So why can't we just set a constantly rising Pigovian tax on the use of fossil fuels to get them out of use for good? A major criticism towards Pigovian taxation in general is that it is impossible to accurately assess the magnitudes of all different externality costs of the target activity in order to determine the optimal tax. However, in the case of fossil fuels in the current situation, where global warming could pass the point of no return at any moment, the optimal tax is quite easy to calculate: it is infinite. The potential costs of global warming shifting to turbo gear due to methane being released from permafrost cannot even be measured in monetary terms. Thus the use of fossil fuels for anything but small-scale research purposes should be banned completely.

The whole "climate change theory" is strongly questioned, especially by "climate denialists". And of course, the actual costs and threats of global warming can be debated. The whole theory about the permafrost methane might be just a big hoax or scare tactic (although recent increases in atmospheric methane are suggesting otherwise), and the truth is, we cannot know for sure what the effects of greenhouse gas emissions will be. But this uncertainty *is* the main reason why we *cannot* afford to take the risk! If the climate change and its exact impacts were a certainty, we could calculate the adaptation costs, make a conclusive "investment calculation" and prepare in advance. But now we can't. And our inability to prepare for all the effects is one of the most important factors making the climate change threat most daunting.

But would we be angry with ourselves if we got rid of the use of fossil fuels now and later discovered for certain that they had no part in global warming after all?

Even if the use of fossil fuels didn't have any harmful effects, their use is still not a sustainable option, as they will eventually run out and alternative energy sources will have to be found within the next 200 years in any case.

1742 "Once the NAP [National allocation Plan] has been adopted and approved by the European Commission, the Member State has to decide upon the total quantity of allowances it will allocate for that period and the allocation of those allowances to the operator of each installation. For the first trading period, the decision has to be taken at least three months before the beginning of the period; for the second trading period this decision shall be taken at least twelve months before the beginning of the relevant period." ...
"It is required under Annex III that a NAP contains information on the manner in which new entrants will be able to begin participating in the emissions trading scheme. The way in which this is done is a matter for each Member State to decide." ...
"It is crucial that new entrants have access to allowances, as without this they could be prevented from establishing themselves in business and competing in the underlying product market of the sectors covered by the ETS Directive." (Deketelaere & Schurmans 2009, p. 273 & 282)

1743 "Cool It", documentary, 1019 Entertainment, http://coolit-themovie.com/

1744 As Keynes said, additional investment makes no sense unless consumption is expected to increase in the future (Keynes 1936, p. 71). If the public sector invests in renewables while the private sector continues investing in accessing new reserves of fossil fuels (calculating that they will remain cheaper for a long time), this is sure to result in massive total overcapacity at some point – which the private sector is likely to ensure by any means (lobbying, dirty competition hampering tricks, consumer propaganda, or finally the "jobs" argument) will fall on the government (who will likely once again succumb to its sunk costs on the excuse of preserving the private sector jobs, and the possible political costs of both losing the jobs and admitting failure. The F35 Joint Strike Fighter program is a good example of the inability of public sector to accept such sunk costs (see: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion"). The conclusions of the Copenhagen Consensus could be seen as yet another example of how many "world class economists" have tied themselves to some interest group-populist camp or are unwilling to say possibly unpopular truths out loud.

1745 Allen, Myles, "Cumulative carbon emissions and their implications", presentation, School of Geography and the Environment and Department of Physics, University of Oxford, retrieved 2.2.2013, http://unfccc.int/files/methods_and_science/research_and_systematic_observation/application/pdf/14_allen_cumulative_carbon_emissions.pdf

1746 Richard, Black, "'Safe' climate means 'no to coal'", BBC, 29th Apr 2009, cited 2.2.2013, http://news.bbc.co.uk/2/hi/science/nature/8023072.stm

So, why not do so sooner rather than later? In addition to the climate change risks, it is noteworthy that fossil fuels – like biodiversity[1747] – might have some irreplaceably valuable uses we haven't discovered yet. Using them up for energy production just because we are too lazy to find the alternative today seems foolishly shortsighted in any case.

Thus, the debate over whether the global warming threat is just a hoax and whether getting rid of global warming is worth the costs are largely irrelevant. Regardless of the threats, we cannot justify basing our economy on using up resources that we cannot produce and that renew themselves extremely slowly, passing costs on to future generations and destroying natural capital that could have irreplaceable uses we are not yet aware of.

Of course, getting rid of fossil fuels immediately would cause an unnecessarily severe economic shock leading to an economic paralysis because even the investments in infra and R&D for renewable energy options require fuel and energy. Thus it would make more sense to make the shift gradually by stating decisively that the use of fossil fuels will be banned completely after e.g. 5 or 10 years and that the carbon taxes – Pigovian Taxes on fossil fuels – will be raised continuously until that point. This would increase expected future energy prices and thus make investing in renewable energy technologies as well as production and distribution capacity extremely profitable and force the changes to happen fast. As Dimitri Zenghelis writes:

> "Price signals to internalise resource externalities remain the most efficient means to ensure productive investment. In particular they generally avoid discriminating between technologies and processes, while encouraging competition within sectors and offering little scope for rent-seeking. Policy should be sufficiently stringent to change behaviour, and predictable in order to contain policy risk, yet simple and flexible in evolving to changing circumstances while limiting compliance costs. (Zenghelis 2012, p. 16)
>
> "Green policies do not require significant public spending. Carbon pricing can raise revenues, while standards and regulations can change producer and consumer behaviour at little cost to the public purse." (Zenghelis 2012, p. 19)
>
> "[I]n many countries, even where climate policy exists, a major barrier to private investment in the green economy is a lack of confidence in key policy frameworks, such as a long-term carbon price, and the longevity and stringency of emissions and renewable energy targets. But this 'policy risk' resides in the hands of policy-makers." (Zenghelis 2012, p. 20)
>
> "In the short run, credible green policies can boost confidence and increase economic activity, provided policy risks are reduced to the point where green investment is seen as a better means to restoring net worth than sheltering saving in 'risk free' assets earning zero real interest. Lots of private money wants to see a successful 'green' economy, but it requires credible policy to kick-start investment in renewables and energy efficiency." (Zenghelis 2012, p. 22)
>
> "And ultimately the only thing that is going to force this through is leadership and credibility. If you have a credible policy environment, where the private sector feels it can make money, the private sector will innovate – entrepreneurs will develop." ... "Tell us what you want. Give us your standards and regulations, price resources effectively and we'll deliver what ever it is that you want to do. But if you don't ask, you really ... won't get."[1748]

A decisively predetermined rise in carbon taxes would also minimize the losses incurred by companies and funds that have existing oil reserves in their balance sheets, while effectively halting investments in searching for and accessing new ones.

However, environmental policies are not even moving in this direction. On the contrary, countries are attempting to keep fuel and energy as cheap as possible by reducing taxation, implementing (direct and indirect) subsidies, allowing exploitation of shale gas reserves as well as fighting entire wars and keeping oil-producing areas underdeveloped[1749] to ensure an affordable flow of oil.

Why? Because our economies are fragile and dependent on growth and thus we need oil to remain affordable! Even a slight increase in transportation and energy costs would increase real prices, *possibly* causing a temporary drop in demand, which *might* trigger a catastrophic chain reaction of economic recession, depression and collapse, as explained in "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence". Quite ironically, the development of sustainable energy sources would "create" more work, and if energy prices could be expected to rise constantly and thus raise prices of goods and services steadily (inflation) this should also encourage people to spend and invest more now when it is still more affordable. But because of the fragility and

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1747 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

1748 12:42->, "Sitra seminar: Sustainable future - Dimitri Zenghelis", presentation, viewed 31.5.2013, http://www.youtube.com/watch?v=9WHpT_6-uBo

1749 See: "3.3.5 Resource Wars and Sustained Political Instability".

short-term growth dependence of our economy, not even a brief contraction in consumption can be risked.

If it were profitable to share work and negative real interest rates were possible, the economy would adjust to any changes in price levels or regulations. Implementing such taxes would not necessarily require a complete global consensus initially. Even a group of countries forming a significant economic whole – like the EU – that have managed to rid themselves of their dependence on growth could implement such a progressive taxation plan and impose similar "carbon tariffs" or "border tax adjustments" on imported products made using fossil fuels to avoid the region's competitiveness being damaged by the increased taxes. Such tariffs have been proposed by a number of economists – including Joseph Stiglitz (2006) and Ismer & Neuhoff (2007) as a part of efficient climate policy.

McKibbin & Wilcoxen (2009) conclude using the "G-Cubed" simulation model that, although "the adjustments would be effective at reducing leakage of emissions" (meaning carbon-intensive production moving to countries with lower carbon taxes), they do not make sense in the case of relatively *low carbon taxes*, as leakage would be insignificant even without them, as the administrative costs are high and as the tariffs would be harmful to overall global trade and thereby global GDP. (McKibbin & Wilcoxen 2009, p. 19-20) And understandably, with *low carbon* taxes this makes little sense. But here, we are talking about carbon taxes approaching infinity! And it is likely that a significant part of the administrative costs come from determining the precise emissions of each product, which easily becomes a very complex process due to e.g. intermediary goods used in production. Therefore, requiring less accuracy in the calculations lowers costs and makes such adjustments feasible with higher carbon taxes.

Rounding these tax adjustments upwards would of course distort fair competition – just as the absence of adjustments would – and might result in protectionist countermeasures from the non-carbon-taxing nations.[1750] However, an economically significant group of nations whose economies were not dependent on growth would be in a much stronger negotiation position. Therefore it makes more sense to force others to follow suit with the *threat* of such tariffs – than actually implementing them before doing so is the only available option – as well as offering to help oil-producing countries develop alternative export industries and renewable sources of energy. To achieve willingness to cooperate, getting rid of the two-faced economy war of trying to indebt other nations is crucial.[1751]

Would such a taxation decision actually raise energy prices significantly? If an economically significant part of nations decided to increase the Pigovian Taxes on fossil fuels by e.g. 30 % every year until banning them in five years, this would cause increased investment in renewable energy. These investments would be unlikely to provide cheaper renewable energy for the first few years, as the research and infrastructure construction takes a while. But oil and coal producing countries and companies would realize that their future profit potential for selling their resources have decreased significantly. Thus, instead of limiting the supply of oil to keep prices high, they would try to sell as much of their oil as possible now that taxes are still reasonable and flood the market with cheap fossil fuels. The notion that green policies in general tend to act like "an announced expropriation" for the owners of fossil fuel resources, encouraging faster extraction and increasing supply was referred to as the "green paradox" by German economist Hans-Werner Sinn. (2012)

Therefore, a credible announcement to tax fossil fuels out of use might actually *lower* energy prices in the short run while renewable sources are being developed and invested in. This of course has the nasty side effect of fossil fuel consumption intensifying for a couple of years (especially in the countries not taking part in the taxation[1752]), but energy consumption as a whole is not very price-elastic in the short run and most existing renewable energy production capacity (like wind, hydro and solar power) has very low unit production costs (i.e. they are *capital-intensive*, meaning that most costs are in the initial investment[1753]). Therefore, they would be able to compete even with momentarily very low fossil fuel prices. Thus the increase in consumption due to temporarily lower prices would cause a far smaller increase in total, cumulative fossil fuel consumption than the decrease achieved by getting them out of use a few years earlier.

The current outlook for getting rid of the use of fossil fuels looks gloomy. New technological innovations and massive investments are constantly made to access more and more remote oil and gas reserves. Brazil is accessing reserves under deap parts of the ocean and Russia is drilling through the Arctic ice sheets. The most significant development are the fresh technologies – including directional drilling and hydraulic fracturing

1750 Becker, Markus & Seidler, Christoph, 2009, "The Threat of Pollution Tariffs: Economists Warn of a Climate Trade War", Der Spiegel Online International, 24th Dec 2009, cited 28.2.2013, http://www.spiegel.de/international/business/the-threat-of-pollution-tariffs-economists-warn-of-a-climate-trade-war-a-668635.html

1751 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further" and "3.3.1 Solving Poverty for Good – Ending the Economy War".

1752 "A sufficiently large carbon tax imposed in a major economy would lower global oil prices and lead to higher consumption in countries with little or no carbon tax." (McKibbin & Wilcoxen 2009, p. 4)

1753 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

or "fracking" – that allow oil and natural gas spread into smaller pockets in rock material to be extracted affordably – but with devastating and sometimes surprising local environmental impacts.[1754] [1755] This so-called "tight gas" and "tight oil" is plentiful in North America and some reserves can also be found in Europe. With such reserves, the Western world's threshold to implement taxes hampering the use of these sources of fresh wealth and prosperity becomes very high – even if they managed to get rid of their dependence on economic growth.[1756] Ironically, some hail this new technology as the "best thing that has happened in the fight against global warming", on the grounds that shifting to natural gas allows halving the carbon intensity of energy production and transportation and thereby reduces *annual emissions*[1757] [1758] [1759] – which, however, as explained, are largely irrelevant. (Allen et al 2009)

Some critics note that the leaks of methane in tight gas extraction might make the direct climate change impacts of shale gas bigger than that of oil and coal.[1760] (Shrag 2012) However, the bigger, long-term issue here is that the increase in such affordably accessible reserves will only increase the total amount of fossil fuels that will be consumed, while killing the profitability (and increase the risks) of any investments into renewable energy sources, delaying – if not completely halting – their development into market maturity and competitiveness. Quoting the PricewaterhouseCoopers climate change report:

> "Gas may buy some time much needed by the global climate system and help limit emissions growth – displacing coal with gas in power generation roughly halves carbon emissions. But low gas prices may also reduce the incentive for investment in lower-carbon nuclear power and renewable energy." ..."At the same time, an over-reliance on gas, particularly in emerging economies expecting high energy demand growth, could lock in the dependence on fossil fuel." (PwC 2012, p. 8)

If natural gas can be called a "bridge fuel" in a transition to cleaner energy,[1761] [1762] then it is a bridge that is constantly pushing the canyon wider as it is being built.

Carbon capture and storage (CCS) solutions are often seen as a rescue that will prevent increases in atmospheric greenhouse gas content without requiring us to get rid of the use of fossil fuels. The idea is that carbon dioxide is captured directly from "large point sources" – e.g. power plants – and then stored underground where the oil and natural gas were extracted from or other geological formations – i.e. "sequestered". Pumping carbon dioxide underground is often part of the pumping process and therefore does not always cause significant extra costs – however, this is not the case with tight oil and gas.

The yet bigger challenge is that, as mentioned, CCS currently only works on large point sources like power plants: It is not a feasibly idea to try to capture carbon dioxide straight out of the air, where concentrations are relatively very low. Also, implementing CCS systems on every vehicle or machine utilizing fossil fuels is surely utopia. Other problems include the high amounts of energy consumed in the capture and storage process and high costs of implementing the technology on existing plants.

Myles Allen has suggested requiring energy companies to bury an increasing proportion of carbon that they release into the atmosphere. A policy where the required proportion increases at the rate necessary to eventually limit cumulative carbon emissions to the level deemed necessary to contain global warming to a specific range is called Sequestered Adequate Fraction of Extracted (SAFE).[1763] [1764]

> "Anyone who extracts or imports fossil fuels should be required to sequester a steadily increasing fraction of their carbon. The maths could not be simpler: we need to increase the fraction of carbon we sequester by, on

1754 Schenkel, Andrew, "Study links flammable tap water to fracking", Mother Nature Network, 10th May 2011, cited 26.11.2013, http://www.mnn.com/earth-matters/energy/blogs/study-links-flammable-tap-water-to-fracking

1755 "UK set to restart shale gas fracking as DECC warns Cuadrilla over earthquakes", Millicent Media, 27th Sep 2011, cited 26.5.2013, http://millicentmedia.com/2011/09/27/uk-set-to-restart-shale-gas-fracking-as-decc-warns-cuadrilla-over-earthquakes/

1756 Cattaneo, Claudia, "Will tight oil change the world?" Financial Post, 21st Jul 2012, cited 26.11.2013, http://business.financialpost.com/2012/07/21/will-tight-oil-change-the-world/

1757 Hudson, Alexandra, "Mix of Energies- School – Shell Oil Company TV Commercial", viewed 18.6.2013, http://www.youtube.com/watch?v=u5-a9eLX4k8

1758 Hudson, Alexandra, "U.S. shale gas revolution throws down the gauntlet to Europe", Reuters, 3rd Feb 2013, cited 18.6.2013, http://www.reuters.com/article/2013/02/03/us-europe-shale-idUSBRE91204Z20130203

1759 Hogue, Tom & Helsinki newsroom, "Shell chairman urges Europe to seize shale gas opportunities – report", Reuters, 15th Mar 2013, cited 18.6.2013, http://uk.reuters.com/article/2013/03/15/uk-shell-olli-la-idUKBRE92E07120130315

1760 "Natural gas drilling causes sizeable methane leaks, study says", Yale Environment 360, 19th Apr 2012, cited 18.6.2013, http://e360.yale.edu/content/digest.msp?id=3414

1761 Podesta, John & Wirth, Timothy E., "Natural Gas: A Bridge Fuel for the 21st Century ", Centre for American Progress, 10th Aug 2009, http://www.americanprogress.org/issues/green/report/2009/08/10/6513/natural-gas-a-bridge-fuel-for-the-21st-century/

1762 Kirkland, Joel, "Natural Gas Could Serve as 'Bridge' Fuel to Low-Carbon Future", Scientific America, 25th Jun 2010, cited 19.6.2013, http://www.scientificamerican.com/article.cfm?id=natural-gas-could-serve-as-bridge-fuel-to-low-carbon-future

1763 Allen, Myles, "Why I think we're wasting billions on global warming, by top British climate scientist", Daily Mail Online, 26th May 2013, cited 29.9.2013, http://www.dailymail.co.uk/news/article-2331057/Why-I-think-wasting-billions-global-warming-British-climate-scientist.html

1764 "Is making carbon 'SAFE' the answer?" Oxford University – Media, 30th Nov 2009, cited 29.9.2013, http://www.ox.ac.uk/media/news_releases_for_journalists/091130.html

> average, 1% for every 10bn tonnes of carbon dumped in the atmosphere."[1765]

Despite the technological near impossibility of this in practice – or perhaps specifically because of it – it might be one political alternative to "taxing" fossil fuels out of use. If it is hard to find a broadly acceptable justification for raising the taxes on fossil fuels to "infinite", then the (potential) costs of carbon sequestration will provide a more reliable "market-based Pigovian tax." Allen is very skeptical of the possibility of banning fossil fuel use altogether.

Compared to a direct carbon tax, this option has the disadvantage of uncertainty. The speculation on future sequestration technologies makes the exact future size of this "tax" uncertain and might thereby hamper the development of other energy technologies. Also, the costs imposed by a SAFE policy with linearly growing requirements for sequestration of emissions are likely *not* linear: Sequestration might be relatively cheap up to a certain fraction of emissions, but then rise dramatically towards the end when technologies for capturing carbon at point sources are no longer enough and carbon has to be captured out of the atmosphere. One option could be a combination of carbon taxes and SAFE: a constantly rising carbon tax that could be avoided by sequestering e.g. double the amount of carbon content of extracted fossil fuels or emitted carbon dioxide.

A second problem this does not remove are the risks related to leakages of sequestered CO_2. Leakages not only have the potential of making the CCS efforts futile (Socolow 2005), but might also be lethal, as demonstrated by the eruption of natural CO_2 reserves from under Lake Nyos in Cameroon in 1986, which asphyxiated 1700 people.

Taking all these recent developments into account, the climate change starts to look like a lost battle and mankind will have to start preparing for adapting to a 2-4 degrees warmer planet, where rains possibly fall in very different places than they do now and extreme weather phenomena become more frequent. But also this adaptation process – and any other future challenges mankind will be facing – will surely be much easier to tackle without our dependence on economic growth and the all-on-all economy war nations are currently fighting.

1765 Allen, Myles, "Climate change: let's bury the CO2 problem", The Guardian, 5th Jun 2013, cited 29.9.2013, http://www.theguardian.com/commentisfree/2013/jun/05/bury-co2-problem-capture-store-carbon

Sidenote Box 341A: The Government's Role in Determining Standards – Can Harmful Path Dependence Be Prevented?

Many activist groups (e.g. The Zeitgeist Movement) and experts (e.g. Björn Lomborg's Copenhagen Consensus) believe that technology is the solution to global warming threats and all of our environmental challenges, and that the government should make more investments into these new technologies. But, as explained, the trouble is that currently a big part of our R&D efforts (private and public) are going into accessing more and more remote oil and natural gas reserves. Without strong economic disincentives on fossil fuels, investments into sustainable energy (by the government or by the private sector) will all go to waste – or, at best, cause the simultaneous investments into fossil fuels to go to waste.

The second trouble with government-led innovation and investment programs are bias and corruption. When the government takes on the responsibility to determine what our new dominant energy technology or fuel paradigm will be, this will result in fierce lobbying, bribing and politicizing between companies and interest groups advocating different technological standards.[1766] And whoever wins, is likely to reap massive gains. As Ha-Joon Chang says, surely "governments can pick winners". (Chang 2010, p. 125-136) But not because the government would necessarily be better at choosing than the market, but because it can *make* winners out of the companies or technologies of its choosing with favorable legislation, regulations and subsidies.

1766 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

Continued on page **372** ▶

Of course the market sometimes chooses nonoptimal standards for the long-term, resulting in inefficient lock-ins. Clear case examples are the QWERTY layout keyboard standard[1767] and the internal combustion engine as the main power source of motor vehicles. If such a long-term-harmful standard can be seen emerging as the result of e.g. protectionist/anti-competitive actions by a company or other institution in a near monopoly position, or simply due to unfortunate path dependence, this could be considered a valid excuse for the government to intervene. Also, in some situtations, many technologies and investments are so interdependent that making *any decision* is better than making no decision, as the reduced uncertainty allows for higher positive externalities. This is the case e.g. with municipal zoning.[1768]

But, on the whole, there is nothing that says that the government could assess the current and future potentials of different technologies better than the private market. Therefore, in the absence of evidence of non-competitive actions, public intervention should rather be refrained from in unclear situations – avoiding "naive intervention" or "iatrogenics"[1769], as Nassim Taleb would call it (Taleb 2012, p. 110-133). "First, do no harm," as Hippocrates's first principle goes (Taleb 2012, p. 112).

Also, in today's turbulently innovative environment, there is no guarantee that any single technology will persist very long and, after we get rid of fossil fuels, energy "paradigm shifts" may occur at a much faster pace.

As we have a large existing capacity of internal combustion engines in vehicles, ethanol is probably the easiest "bridge fuel" for the transition phase, as the price of petrol rises. However, as there is a very limited capacity of arable land, also the price of ethanol can be expected to go up very fast, while simultaneously raising the price of food (assuming no increase in farming subsidies[1770]). Therefore electric vehicles powered by e.g. batteries or hydrogen powered fuel cells seem like a more likely dominant form for powering vehicles in the long run – unless we manage to find a cheap way to produce and harvest vast amounts of algae for ethanol[1771, 1772] in oceans e.g. with fertilizer nets.

And the range of possibilities in electricity production is just as versatile: wave power, thermosolar power, geothermal energy, different variants of fusion power, extended fission[1773] etc. There simply is no way of predicting certainly what the most efficient, reliable and safe form of sustainable energy production will be in 20 years, in 50 years or in 200 years.

To ensure constant progress and avoid hampering, premature technological lock-ins right after we get out of the previous one (fossil fuels), the market and entrepreneurship should really be given a shot. And that would only require the decision to tax fossil fuels decisively out of use within e.g. ten years. And all we need in order to be able to do that, is to get rid of our dependence on economic growth and the economy war between nations by fixing the Root Bug.

1767 David, Paul A., 1985, "Clio and the Economics of QWERTY", The American Economic Review, vol. 75, no. 2, pp. 332-337.

1768 See "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

1769 "The name for such net loss, the (usually hidden or delayed) damage from treatment in excess of then benefits, is *iatrogenics*, literally 'caused by the healer,' *iatros*, being a healer in Greek." (Taleb 2012, p. 111)

1770 See "Sidenote Box 33.A: A Note to Vegans: The EU (or the Federal U.S. government) Eats Meat for You".

1771 Wald, Matthew L., "Another Path to Biofuels", New Yourk Times, 23th Nov 2012, cited 5.3.2013, http://green.blogs.nytimes.com/2012/11/23/another-path-to-biofuels-two-actually/

1772 Layden, Laura, "State concerned with algae-to-ethanol process of Fort Myers company", Naplesnews.com, 13th Mar 2012 cited 5.3.2013, http://www.naplesnews.com/news/2012/mar/13/state-concerned-with-ethanol-to-algae-process-of/

1773 See: "3.4.4 The Nuclear Power Case Example – Are All Risks Adequately Internalizable?".

3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination

In short:

- ***Biodiversity should be preserved for its immeasurable potential value for mankind in the future. No discounting rate justifies sacrificing such an irreplaceable resource for short-term cost-cutting.***
- ***The main obstacles to successfully protecting scarce habitats are the urgent need – overriding all other priorities – to "create jobs" and stimulate economic growth.***

"A capitalist system theoretically creates situations of industrial 'necrosis' – stagnant industries should die as they show diminishing returns, and their life should be redistributed into dynamic industries via capital moving from the one to the other. Schumpeter referred to this as 'creative destruction'. In the current system though, health is measured in monetary returns relative to monetary costs, and man industries are given artificial life by failing to account for their environmental and social costs. They are animated, as it were, by our collective blindness to such costs." ... "CEOs are well-trained at fending off questions like 'why are you creating pollution?' They use utilitarian arguments like 'we're creating jobs, and we do our best to minimize any pollution created in the process'." – Brett Scott, The Heretic's Guide to Global Finance: Hacking the Future of Money (2013, p. 146 & 145)

"What's called true cost economics, where the cost of producing wealth – the cost our rivers, our air our water – is captured back in the price of what's produced." – Alanna Hartzok, Earth Rights Institute[1774]

1774 26:28->, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://realestate4ransom.com/

As explained in "2.1.2 Life, Diversity and Sustainability as a Normative Maxim", nature itself does not value conservation of diversity. If human actions have changed the environment so much that pandas find it hard to survive (if, hypothetically, e.g. their favorite types of food plants become scarce as a result of fossil fuel induced climate change), Mother Nature's preferred solution is to let pandas go extinct. It has done this repeatedly, dinosaurs as the cliché victim. So why should we be concerned for biodiversity and natural conservation in general? For our own sake – and our children's sake if we happen to have any empathy for them. (Mother "Natural-Selection-Survival-of-the-Fittest" Nature does not attribute any absolute value to us either.)

Biodiversity is one of the most invaluable (i.e. priceless[1775]) and irreplaceable resources our planet has. And we are not only talking about any aesthetic, experiential or ideological absolute value that some might attribute to it: Even its functional potential is "priceless". It holds yet unimaginable application opportunities and sources of discovery and inspiration in many fields of science and technology – most notably in medicine, nutrition and other biological fields, which can help us understand ourselves better as well as solve our everyday problems and challenges of global relevance.

So why can't we afford to protect these priceless, irreplaceable resources? As with fossil fuels, the Tragedy of the Commons is the main culprit. When something is available for use to anyone, it is best to use it now for any productive use that you can currently think of than to wait for some more useful or irreplaceable use that might come up later, because someone else would likely have used them up by then. Rainforests, as an example, are cleared because more farmland is desperately needed, a new hydro power plant needs a reserve pool[1776] or there are other resources available in the ground under the biomatter. We in Western countries, who have cleared our own forests hundreds of years ago, are quite hypocritical in demanding that countries in the tropical zone refrain from doing so – especially when we are simultaneously trying to prevent them from becoming competitive in "cleaner" industries.[1777]

For many developing countries, farming and mining are their best – and sometimes almost only – available

1775 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

1776 Watts, Jonathan, 2013, "Belo Monte dam construction halted by Brazilian court", The Guardian, 16th Aug 2012, cited 10.3.2013, http://www.guardian.co.uk/world/2012/aug/16/belo-monte-dam-construction-suspended

1777 See: "3.3.1 Solving Poverty for Good – Ending the Economy War" and "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

ways of providing for their own citizens and producing exportable goods. If we'd want them to start conserving more of their forests, we'd need to give them some other way to make a living: stop blocking all other exports and provide them with an education systems and technologies, which would allow them to produce other things, too, and allow them to produce their food more efficiently and sustainably in terms of natural resources. We Westerners aren't very conscientious in protecting our own natural environments either when valuable resources – or merely e.g. the employment of forestry or mining workers[1778] – is at stake.

The case of the Brazilian Belo Monte dam complex – criticized for its impacts on the local environment – is descriptive:

> "And while the government always has an upper hand and may very well be getting what it wants, a small majority of the population in Altamira think the dam brings more benefits than not. Then again, that depends on how the question is framed.
>
> According to pollsters at Datafolha, 51% say Belo Monte brings more benefits than damages. The reason? Not electricity, of course. For this region of mostly low income labor, jobs matter most. Sixty-six percent said Belo Monte was good news because it meant employment.
>
> The problem is the 25,000 workers there will not be employed forever."[1779]

The only way we can really start to conserve resources and scarce habitats systematically for our children and our future selves is that we relieve ourselves of our dependence on economic growth and decouple the demand for employees from the demand for labor and thereby also the need to wage the ruthless but silent economy war between nations. Only then can we afford to set strict rules for business and enforce them with harsh enough penalties that remove any *moral hazard* situations where taking the risk of getting caught for a breach would be an investment with a positive expected outcome.

Companies found guilty of environmental regulation breaches could be punished according to the full expenses of repairing the damage they caused and all the achieved economic gains. If this meant bankruptcy, than that's what it would mean. Companies without sufficient equity to cover for such possible costs would be required to hold an insurance policy that covers for them if they wish to undertake any environmentally risky business operations. This would encourage shareholders to be very concerned with their companies' obedience to the regulations and diligence in environmental risk management.[1780]

In the current situation, governments cannot enforce such strong penalties, because of the number of jobs (and massive profit opportunities) that might be lost temporarily before a more responsible company takes over the market. Oh what we wouldn't do for jobs? And the problem is only going to become worse as the prices of natural resources rise with them becoming more scarce and possible negative interest rates – or fears of hyperinflation – making investors look for better retainers of value.

By making sharing work profitable, we could make the system independent of growth and also maximize mid-term structural flexibility[1781] so that there would be no justifiable reason to artificially sustain industries that are becoming unsustainable environmentally or are otherwise in decline.

1778 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and "6.2.5 Appendix 2.5: The Tyranny of Jobs".

1779 Rapoza, Kenneth, "Was Brazil's Belo Monte Dam A Bad Idea?" Forbes, 7th Mar 2014. http://www.forbes.com/sites/kenrapoza/2014/03/07/was-brazils-belo-monte-dam-a-bad-idea/

1780 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

1781 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

3.4.3 Unsustainable Waste Management

In short:

- *Without our economies' dependence on growth, there would be no obstacle to requiring all products to have complete, sustainable life-cycle plans.*
- *However, such regulation might not even be necessary to solve waste problems if mining and landfills were taxed and priced according to their full externality effects and natural resource rents.*

Before the "ascent" of global warming as a trendy cause of concern, the ever-mounting piles of garbage were a primary symbol of the unsustainability of human actions. And e.g. plastic bags still carry this emotional taint. Our technologies would allow completely sustainable handling of materials: All components, packaging and leftovers could be either recycled into newly usable materials, burned into energy or fermented into fuel and fertilizers. The only limitation is that as long as this is not a requirement and the resulting externality costs don't have the appropriate disincentives attached to them, it is cheaper not to do so – and to not even take recyclability into consideration when designing new products.

As mineral ore and other resources of materials start becoming more scarce in nature and their prices rise, eventually former landfills will start becoming lucrative "mining" sites. And garbage is constantly becoming a bigger and bigger business! But we are not all there yet. Leaving resources in less usable – harder-to-extract – forms than how they were found in nature is passing costs on to future generations. Also, the environmental costs of further mining are seldom fully paid by the mining company, which results in a bias towards mining new resources vs. recycling already mined and refined ones.[1782]

This bias could be tilted by setting higher Pigovian taxes on new mines and other limited natural resources to match the environmental impacts and risks they impose on the surroundings. This combined with strict protection of a set amount of scarce habitats would make mining new resources quite expensive. Additionally, the rights to the use of ore reserves and mining sites need to be taxed strongly according to their market value – just like all natural resources and limited locations[1783] – to prevent monopolist mining companies from reaping the unearned profits of these rises in value of the end products.

Why can't we afford to do that? And on other hand, why couldn't we simply require all new products to have a complete life cycle plan where their components are burned cleanly into energy or recycled into reusable bulk form or directly into new products? Governments could provide the basic infrastructure for burning burnable waste into energy, collecting biowaste for fermentation into fuels and fertilizers and collecting metals and glass for recycling until the given minerals become valuable enough for private companies to start competing over waste and the opportunity to do this collecting and recycling. More complex products, such as electronics, would be required to be disassembled and recycled by the producer so that this recycling cost would be included in the purchase price of the product – making the consumer take these costs into consideration in purchasing decisions.

Once again, we bump into "economic realities". Such limitations would cause a slight rise in the prices of products and slow down the introduction of new ones – and prevent some products from being produced at all.[1784] The resulting drop in total demand and supply might – and probably would in the currently uncertain environment of the world economy – nudge the whole system into a chain reaction of depression.[1785]

There would be no risk of such a chain reaction if we just decoupled the demand for employees from the demand for labor[1786] by making it profitable to share work – so that no one had a risk of long-term unemployment. Similarly to the case with fossil fuels,[1787] there might be a temporary drop in real incomes, but the amount of total demand would be determined by what people consider worth buying – and not be limited by economic insecurity caused by the uncertainty over how much others will be willing to buy in the future.

1782 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination".

1783 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

1784 E.g. Tamagotchis are one such product that might never have been produced.

1785 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1786 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

1787 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

Currently, the main arguments for nuclear power are the need to cut down carbon emissions[1794] and the relatively low costs (with calculations that largely omit risks) compared to current costs of renewable energy sources. The whole necessity to avoid even short-term rises in energy costs would be eliminated with the elimination of our economies' growth dependence. Therefore, fixing the Root Bug would also be the most feasible way to avoid additional nuclear power risks being taken – regardless of whether the industry remains private or not.

What about the storage of nuclear waste – especially highly radioactive used nuclear fuel? Although the "sunk costs" argument doesn't apply to meltdown risks (each new reactor increases total risks unless old ones are shut down), it applies more so to nuclear waste: There already exists tons of radioactive waste that needs to be placed somewhere. Such a placement needs to be extremely secure in any case (caverns dug into stable bedrock provides a good alternative) and if it were to leak, it doesn't make much of a difference what the total amount of fuel stored is. On the other hand, the more waste there is, the more we can afford to invest in the security of the storage, as the fixed costs (finding suitable locations, vertical tunnels, area monitoring, storage technology development etc.) are allocated to a larger quantity of waste.

The final disposal of the fuels needs to be able to remain intact for the next 100 000 years. However, it is likely to contain a big upside potential long before that date comes due. Future technologies might allow the fission reaction to be continued further – possibly "closing the nuclear fuel cycle", which would mean that the reactors produce hardly any long-term radioactive waste at all.[1795] [1796] [1797] [1798] Therefore, any country with a stable bedrock (not e.g. New Zealand, Thailand or Japan) might be making – in addition to a good immediate profit – an even better long-term investment in offering to dispose of other nations' fossil fuels in retrievable locations, as these wastes might eventually turn into a valuable resource.

"Thinking at the margin" (as rational decision-makers should), additional nuclear waste is no longer the most important factor in deciding whether nuclear power should be abandoned and when. (If we could go back in time to before the uranium fission process was first adopted, then of course it would be relevant.) In terms of mitigating long-term waste leakage risks, it would seem a better option to invest in technologies that allow further utilization of the waste and rendering it harmless.

1794 (...which doesn't make sense unless the objective is to get rid of fossil fuels altogether and rather soon, see: "3.4.1 Global Warming and Dependence on Fossil Fuels")

1795 Argonne National Laboratory, "Pyroprocessing Technologies: Recycling Used Nuclear Fuel for a Sustainable Energy Future", retrieved 8.4.2013, http://www.ne.anl.gov/pdfs/12_Pyroprocessing_bro_5_12_v14%5B6%5D.pdf

1796 "Fast Neutron Reactors", World Nuclear Association, cited 4.4.2013, http://www.world-nuclear.org/info/Current-and-Future-Generation/Fast-Neutron-Reactors/#.UWLdlavOnd5

1797 "Nuclear waste-burning reactor moves a step closer to reality", The Guardian, 9th Jul 2012, cited 4.4.2013, http://www.guardian.co.uk/environment/2012/jul/09/nuclear-waste-burning-reactor#

1798 "Smarter Use of Nuclear Waste", Scientific American, 26th Jan 2009, cited 8.4.2013, http://www.scientificamerican.com/article.cfm?id=smarter-use-of-nuclear-waste

3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate

In short:

- *Eternal economic growth is not a physical impossibility, but it does not make sense as an objective in itself, as further specialization does not always "increase utility" (i.e. it's not what people always prefer) or make people's lives more worthwhile.*
- *The debate over whether the economy should grow more or less is about as relevant a political debate subject as debating over whether people should have more or less sex. Shouldn't one's amount of specialization and trade be a matter of individual preference?*
- *Most of the problems often directly linked to economic growth are rather problems sustained by or economies' dependence on growth.*

> "Anyone who believes in indefinite growth in anything physical, on a physically finite planet, is either mad or an economist." – Kenneth E. Boulding

> "The gross national product is a rough measure of this total throughput. It should be possible, however, to distinguish that part of the GNP which is derived from exhaustible and that which is derived from reproducible resources, as well as that part of consumption which represents effluvia and that which represents input into the productive system again. Nobody, as far as I know, has ever attempted to break down the GNP in this way, although it would be an interesting and extremely important exercise, which is unfortunately beyond the scope of this paper." – Kenneth E. Boulding, The Economics of the Coming Spaceship Earth **(1966, p. 4)**

> "Economic logic says that when a new good or service comes into being, the fact that someone is willing to pay for it means that it must be to someone's benefit. In a certain narrow sense, this is true. If I steal your car keys, it may be to your benefit to buy them back from me. If I steal your land, it may be to your benefit to rent it back so you can survive. But to say that money transactions are evidence of an overall rise in utility is absurd; or rather, it assumes that the needs they meet were originally unmet. If we are merely paying for something once provided through self-sufficiency or the gift economy, then the logic of economic growth is faulty." – Charles Eisenstein (2011)

> "Growth for the sake of growth is the ideology of the cancer cell." – Edward Abbey, The Journey Home (1977, p. 183)

Last few years have seen a heated debate between "green growth", which is putting hopes in "decoupling" environmental unsustainability (or "material throughput" and "environmental impact") from economic growth through technological progress on one side and different "degrowth" movements that challenge the objective of growth on the other side.

"The degrowth movement" is not a coherent whole. Some like to split its branches into two distinct categories: (1) ideas *questioning economic growth* as an objective in itself and (2) ideas *making economic decline an objective* – considering it an absolute necessity for environmental sustainability (Alaja 2011, p. 15) – demonizing growth itself. The Root Bug hypothesis could be thought to belong to the former branch of "degrowth", questioning the absolute value of economic growth as well as the acceptability of our economies' growth dependence.

Advocates of the latter branches like to quote Kenneth Boulding:

> "Anyone who believes in indefinite growth in anything physical, on a physically finite planet, is either mad or an economist." (Boulding 1966, p. 160)

The key part of this argument is the word "anything physical" (which is often left out in many quotations). And even then it does not apply to all "physical phenomena". A clear counter-example to such a generalization would be a microprocessor. During the past 50 years, the amount

of computations executed by microprocessors have grown over billionfold, while the processors have become *smaller*. Similarly, economic growth is not the growth of anything physical,[1799] but an increase in the amount and value of (production-related) *transactions*. The (real) "size of the economy" is (determined by) the market value of the goods and services produced and consumed – which also includes improvements in quality (as long as they are numerically measurable).[1800]

Even if the physical resources for producing goods and services would be limited, there is no limit to how useful services they can be used to provide, nor how fast or well these resources can be rearranged into useful products. Theoretically, I could buy a new electric car every day and have it disassembled and recycled each night to provide material for the construction of a new car. This would increase economic activity – and even "throughput", i.e. the flow of physical material, which ecological economics tends to want to minimize[1801] – but not *"use up"* or tie down any more physical resources than keeping the same car for 5 years. Even material throughput can be environmentally *sustainable* material throughput.

The amount of energy that can be produced sustainably on Earth is limited by the amount of radiation the Earth receives from the sun, the radioactivity under the Earth's crust creating more geothermal energy and the amount of nuclear (fusion and fission) reactions humans can safely generate out of materials found on the planet. But even the energy from the sun is far from being fully harnessed. Also mirrors built into space could theoretically further increase our capability to capture energy, and fusion power or extended fission energy (increasing the amount of available nuclear energy by orders of magnitude) might not be as far-off a sci-fi utopia as we could expect.[1802]

However, energy use does not necessary correlate with economic activity or the perceived quality of goods either. A lot of the current value produced is in electronically stored information and the quality of this information does not correlate with the amount of energy used. Also electronics can become far more energy efficient than they are now – e.g. with the development of high-temperature superconductors. If the amount of available energy still poses a limit, as a final resort, mankind could bury itself into the Earth's crust to prevent any energy from being lost and use all energy captured from the surface yet more efficiently.

So thousandfold economic growth from the current situation (at least along some measures of growth) is not a *physical impossibility*. But is it an economic impossibility for such growth to be environmentally sustainable? The *Ehrlich equation*, a.k.a. the *IPAT* equation, states that environmental impact (I) is a product of population (P), affluence or income level (A) and the technological intensity (T) of economic output.

$$I = P \times A \times T \text{ (Jackson 2009)}$$

Degrowth activists point out that a lowered T-factor (e.g. increased energy efficiency or other technological advances decreasing "throughput"[1803] per dollar spent) usually results in a "rebound" effect of increasing A. Increased use efficiency of a resource tends to increase the total consumption of that resource – and even the total consumption of all resources. This is also referred to as "Jevons' paradox", named after William Stanley Jevons who noticed the phenomenon with coal over 100 years ago. (Alcott 2005) This is because the higher productivity causes the resource to be adopted more widely in production of different goods and services and the lowered real costs of the end products increases their demanded amounts. On a broader scale, this can be seen in how increased energy use efficiency tends to result in more total energy consumption, as the increased purchasing power increases total consumption – or, if it doesn't do so directly, consumption will in one way or another have to be increased to maintain the same amount of labor demand to maintain employment.[1804] Therefore, "relative decoupling" might *decrease* the chances of "absolute decoupling." (Sorrell 2007)

On the other hand, critics of degrowth ideas note that although e.g. greenhouse gas emissions tend to increase at around the same rate as the economy grows, economic declines have not been shown to decrease emissions by the same rate. The data in the PricewaterhouseCoopers

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1799 E.g. George Monbiot makes this assumption that economic growth is growth in the physical size and amount of our *possessions* in his recently published argumentation for the impossibility of perpetual exponential growth.
– Monbiot, George, "It's simple. If we can't change our economic system, our number's up", The Guardian, 27th May 2014, cited 28.5.2014, http://www.theguardian.com/commentisfree/2014/may/27/if-we-cant-change-economic-system-our-number-is-up

1800 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

1801 See: "2.2.4 Ecological Economics – Putting Economics into the Eco-Box".

1802 ...although the hype announcement by the Lockheed-Martin subsidiary Skunk Works, promising economically viable fusion reactors within a decade smells mostly like propaganda intended to scare the investors and managers of renewable energy companies – already worried by the competition imposed by cheap shale gas – from making big investments. A rather classic "bait and switch" strategy, similar to how promises of affordable hydrogen fuel cell technology were used to kill the support for promising battery-based electric vehicles.
– 2013, "Solve for X: Charles Chase on energy for everyone", YouTube video, viewed 28.3.2013, http://www.youtube.com/watch?v=JAsRFVbcyUY
– "Who killed the electric car?" documentary, Sony Pictures Classics.

1803 "Throughput" is what ecological economists call the material flows resulting from economic activity (Costanza et al 2007, Chapter_1#gen1). See: "2.2.4 Ecological Economics – Putting Economics into the Eco-Box".

1804 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

report "Too late for two degrees?" (PwC 2012) shows how recent recessions, both that of 2002-2004 and 2008-2012 have significantly slowed down improvements in carbon intensity – the rate of "decarbonization" dropping to below 1 % in the past four years. (PwC 2012, p. 3-4) This phenomenon could be explained so that people afraid for their jobs and livelihoods are not very interested in cutting down on fossil fuel consumption e.g. by buying more energy-efficient products (e.g. hybrid cars), which also lowers companies' (who are already squeezed more tightly by price competition) incentives to build their brands with such sustainability factors.

So we appear to be in a gridlock here. Both economic growth and decline seem to be environmentally unsustainable!

Before presenting the solution to this dilemma, let's remind ourselves that even if "eternal" economic growth is not a *physical impossibility*, it still makes no sense whatsoever as an objective in itself.[1805] Paid human interaction (which is what GDP figures represent) is just one part of all human interaction. Many other kinds of interaction can be valuable as well, and people can also find fulfillment in non-paid ambitions.[1806] The assumption that *everyone* will always want to *specialize and trade more and more*[1807] and always *work full-time* in one's main profession[1808] is ridiculous. Even the neoclassical growth model accepts that also free time, leisure, has utility – and that the utilities of both consumption and leisure tend to be marginally diminishing.[1809] It is almost inevitable that the marginal utility of additional leisure at some point starts exceeding that of additional products and services as productivity increases – at least for some individuals.

The whole debate over whether the economy should grow more or less is about as relevant a debate topic as whether people should have more or less sex: Even if you could show a clear correlation or even a causal relationship between the total amount of sexual activity and people's happiness (the worthwhileness of their lives and their self-esteems[1810] etc.), it still would not make sense for it to be the objective of government policy to get people to have more sex. Most people would agree that it should be a matter of personal choice. At most it makes sense for the government to prevent sexual abuse, promote safe sexual practices and ensure that people suffering from harmful sex addiction have access to some kind of treatment. Similarly, if we ban environmentally harmful practices – such as the use of fossil fuels[1811] – and prevent people from keeping each other involuntarily in debt,[1812] they should be free to decide for themselves what services and products they still consider worth buying and working for.

What is it that makes both degrowth and decoupling seem so impossible in the current state of affairs? It is always dangerous to draw conclusions of unbreakable causality from historical correlations, as both the "degrowth" and the "green growth" factions tend to do in supporting their claims. Regression analysis is not reliable either, unless data on all other possible causal factors is controlled for. If not, a seeming causal relationship might only apply in the presence of another factor that has not been observed or controlled for – or the correlating variables might both rather be caused by such an uncontrolled parameter. The speed of a train car might closely correlate with that of the locomotive – but not after we open the lock connecting them.

And one decisive factor that has been present the whole past century is our economic systems' *dependence* on economic growth – that we've had to get growth by any means to avoid unemployment and an economic collapse.[1813] Similarly, severe sex addictions are likely to lead to lots of harmful sexual activity, sexual abuse and spreading of STDs. In such a situation, it would be rash to conclude that sexual abuse would be *caused* by people's *sexuality* – or more precisely, to conclude that it is a *"sufficient cause"* from the fact that it might be a *"necessary cause"*.[1814] Without this dependence, we could set whatever limits, regulations and harms taxes sustainability might require and then let individuals decide for themselves if they want to "downshift" or to work harder to get those (or even more) products and services sustainably. And they wouldn't need to feel guilty about "consumption"[1815] anymore either.[1816]

The idea of comparing our dependence on economic growth to a human addiction is not a new one. In 2004, Douglas Booth published a book titled "Hooked on Growth: Economic Addictions and the Environment".

1805 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".
1806 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
1807 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".
1808 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
1809 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".
1810 See: "6.1.2 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
1811 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".
1812 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1813 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.2 Other Scapegoats for the Mystical Growth Dependence".
1814 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison."
1815 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".
1816 More on our outdated economic morals and emotional association with words like "consumption" in this book's sister, "The Guilt Economy".

(Booth 2004) In the book, he refers to our growth dependence as a "social addiction" and identifies the resulting social pains of unemployment and the *dissatisfaction* resulting from not increasing consumption (living standards) as its withdrawal symptoms. However, while discussing how to get "unhooked" from growth, he talks about getting rid of excessive growth. I.e. his aim is to limit growth, not just to get rid of the dependence.

For some reason it is hard for people to distinguish between an addiction and the object of the addiction. Although a "cured" alcoholic often needs to become completely sober in order to avoid falling back into a binge, this does not apply to all sorts of addictions. Getting rid of sex addiction does not necessarily mean being doomed to life-long celibacy. Being cured of a compulsive eating disorder does not mean having to live on a drip for the rest of your life. We could also consider an alcoholic to be "fully cured" only after he has learned to use alcohol responsibly and in moderation without falling into a binge. (A "sober" or "recovering" alcoholic is rather managing to *live with* his "disease", instead of actually having been *cured* – like a diabetic with insulin shots or an HIV patient on antiretrovirals, with all due respect to such survivor heroes.)

Trading between people is a very useful and even necessary sort of activity.[1817] There is no reason why it should be eliminated or why we should have a specific "cap" of maximum amount and value of products and services that can be traded. Also, the fact that "capital" now allows extortion – due to its "minimum wage",[1818] the untaxed private ownership of limited vital resources and other monopolies[1819] – does not mean that the concept of capital itself[1820] would be evil. However, many critics of capitalism (including the Zeitgeist anti-moneyists and even the World Social Forum) have "thrown the baby out with the bathwater" and drawn the conclusion that "there is no solution inside the capitalist system".[1821]

1817 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress", "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy" and "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

1818 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1819 See: "4.3 Eliminating Private Monopolies and (Other) Privileges".

1820 I.e. the idea of being compensated for carrying risks or doing work in advance when people are impatient and risk-averse, see: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1821 "Declaration of the Social Movements Assembly of the World Social Forum, Tunisia 2013", International Journal of Socialist Renewal, cited 21.5.2013, http://links.org.au/node/3283

3.5 A COMPETITIVE OPTION AND DOMINATING STRATEGY

In short:

- *Fixing the Root Bug – while removing the need for nations to compete fiercely over production and investment in order to maintain current account surpluses – would be a competitive option to implement for any country or region with its sovereign currency.*
- *Other nations would almost be forced to follow suit if they wanted to remain even modestly competitive – or would have to restrict foreign trade notably.*
- *In competitiveness over productive investments, a root-debugged economy would beat even an anarcho-capitalist region or a minarchist state that allowed full private land ownership and used a market-dictated currency.*

So we could solve most of our economic, social and environmental issues – *if* we just managed to fix the Root Bug. But is it feasible? Or yet another, unrealistic utopian vision?

Surely not everyone globally is going to buy into the presented perspective and solutions simultaneously. Economics tends to be to politics what theology is to religion – and both politics and religion tend to be matters of conviction, where faith and loyalty are values surpassing solution-orientation, curiosity or evidence.[1822]

Fixing the Root Bug differs from many other drastic suggestions for solving our global sustainability issues in that it would not require a broader international consensus to implement, as it would be a competitive, game-theoretically feasible option for any country to implement first. Provocatively, we are claiming that a root-debugged economy would be more competitive over enterprise and investments than an anarcho-capitalist region or a minarchist state with full private land ownership and market-dictated currencies. Simultaneously, it would remove the need for countries to compete fiercely against each other in the long run. It would hence be feasible for any first mover and would almost force everyone else to follow suit – or take strong (and likely costly) protectionist actions.

Fixing the Root Bug has three major competitive advantages:

- The advantage of a flexible and adaptable labor market
- The advantage of reduced transaction taxation
- The advantage of the possibility of negative interest rates (and deposit rates kept relatively low by the fee on the deposit guarantee), which keeps devaluation pressures on the currency.

And finally, because wage levels and currency exchange rates are not controlled, they do the final adjustment of keeping competitiveness balanced.[1823]

1822 See: "5.2.4 The Religious Nature of Economics and Politics" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".

1823 See: "3.1.6.2 Sticky Trade Imbalances".

3.5.1 The Advantage of an Extremely Flexible Labor Market

In short:

- ***Legal (and image) risks and costs associated with downsizing operations are a major portion of total labor costs in many countries.***
- ***Removing these risks and mitigating deficits of skilled labor by maximizing labor mobility would make a region more competitive over productive investment.***

> "Flexibility and adaptability seem to be key elements in facilitating the all-encompassing transformation required by modern economic growth, particularly in view of the conflictual nature of the process." – Moshe Syrquin (1995, p. 34)

> "The same [concavity can be seen] with operational leverage on the part of a fragile company. Should sales increase 10 percent, then profits would increase less than they would decrease should sales drop 10 percent." – Nassim Nicholas Taleb (2012, p. 293)

In a world where the "movements of capital" (foreign direct investments and international loans) are unrestricted, the availability or costs of capital do not make a significant difference in the relative competitivenesses of regions. (Of course unreliable legal systems make a difference, as capital is quite scared of uncertain property rights and political instability). Therefore the productivity-to-cost-ratio of labor ends up being the most significant factor in regional competitiveness over enterprises and investments.

The productive capacity of a "labor force" depends on the versatility of people's skills but also cultural issues like qualitative work ethics. Factors like *power distance* – preferred depth of hierarchy and respect for authority (Hofstede 1984) – affect the productivities of different kinds of work differently. One might speculate that high power distance could e.g. increase productivity in lower skilled jobs, but limit productivity in more creative work. These things are hard to affect with economic policy, apart from educational subsidies and development programs.

Therefore, overall labor costs tend to be the main short-term cause of concern when discussing competitiveness. The high cost of labor is the biggest disadvantage of many Western countries when formerly underdeveloped countries (most notably the BRIIC countries, Brazil, Russia, India, Indonesia and China) are developing their human capital and institutions.

However, the cost of labor is not only determined by the wage level and taxes. When making a recruiting decision, a company has to take into account the whole expected costs of the "life cycle" of the employment relationships – and in this, possible labor reduction costs are a significant factor raising both the expected total costs and variance thereof – i.e. risk.[1824] In many countries, companies are required by law to pay high compensations to fired employees. And even without such costs, the brand damage caused by news of layoffs constitutes a significant cost for a company worried about its image (which is almost every company, but especially ones in B2C markets).

If companies could always reduce the amount of labor they buy without fear of penalties or being labeled "socially irresponsible", this would be a huge advantage both in terms of total labor costs and reduced image risk. In today's interconnected world, news of layoffs spread across the globe quickly and thereby companies would benefit globally from operating in areas where such news could be avoided.

Practically there would be hardly any "quantitative recruiting risks" – risks related to variations in demand – as individual recruiting decisions would be "decoupled" from the decision of how much labor the company wants to buy. Of course "qualitative recruiting risks" – i.e. recruiting and training an unsuitable person – would still remain, but they would be smaller as well when there are no penalties for terminating employment relationships and when the amount of work can be adjusted quickly without having to make rash recruitments.

How this would *not* cause companies to lose their most irreplaceable and profitable employees, but only those with the best relative productivity opportunities elsewhere, was explained in "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?". On the contrary, such internal flexibility, which does not require firing anyone, could be used to avoid "brain drain" – loss of crucial talent – and to reduce future re-recruiting costs.

1824 See: "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions".

3.5.2 The Advantage of Lower Transaction Taxes and Efficient Allocation of Limited Resources

In short:

- *A government revenue model focused on taxing land and patents, auctioning natural resources, collecting public monopoly industry profits and charging for the government guarantee of bank deposits would be much more attractive for companies and encourage productive investment – while also ensuring the availability of limited resources to the most valuable uses available.*

"The reason Hong Kong can afford a 15 or 16 % tax rate on labor and capital, which made it supercompetitive as a place of business and brought in lots of people, was because a third of its revenues was coming from land revenues: from leases and rights." – Terry Dwyer[1825]

Many companies are deciding their country of operations according to where they are taxed the least. Lower taxation of work, consumption, profits and trade in general encourages and attracts more economic activity.

Firstly, Fixing the Root Bug would allow reducing total taxation significantly, as all "job creation" programs and other costs (including subsidies) incurring from attempts to spur economic growth would become unnecessary.[1826] Also, there would be less social security costs, as involuntary unemployment would be eliminated for the most part.[1827]

Companies exist to do business. For most companies that means creating value by selling products and services, producing them and buying resources needed for production (most notably labor). Therefore high transaction taxes are what harm and repel business operations the most. Shifting the public revenue model more towards taxing land as a limited, vital, non-movable resource and patents as technology monopolies, charging for publicly provided services – especially the guarantee on bank deposits – and taking natural monopoly industries into public ownership would allow minimal transaction taxes (e.g. VAT, income taxes, payroll taxes and corporate taxes).[1828]

Companies try to minimize their working capital in any case, and hence minimizing their costs of holding cash would be nothing new. Taxing patents according to market value and hence putting them up for "constant auction" to anyone that finds uses for them, increases innovative capacity and makes competition more efficient.[1829]

The issue of banks and tax havens is discussed under "3.5.3 The Advantage of the Possibility of Negative Interest Rates" and "Sidenote Box 3161B: Tax Avoidance and the Tax Haven Problem".

The advantages of land taxation go way beyond just reducing transaction taxes.[1830] Libertarian activists promote ideas of "private cities" or "charter cities"[1831 and 1832] – kinds of "startup city states" – with minimal government restrictions and taxes. Also, in "6.3.3 Appendix 3.3: Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources", we introduce a very theoretical model, where "states" – or rather "competing governance forms" – would be competing over people, and suggest an initial version of a "gambling trading system" for how natural resources could be allocated between such governance forms. If we compare two such newly established states, state A with untaxed private land ownership and with the public legal system (minarchy) financed by e.g. a low, flat rate income tax and state B that collects a heavy land value tax (e.g. 10 % of market value[1833]) and distributes the excess revenues (left over after governance expenses) from that to all residents as a citizen's salary or as subsidized public services (like

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1825 29:56->, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://real-estate4ransom.com/

1826 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

1827 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence", "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

1828 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt" and "4.2.2 Setting a Fee on the Government Deposit".

1829 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".

1830 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

1831 Lydersen, Kari, "Modeling Capitalist Dystopia: Honduras OKs Laws for Private Cities", In These Times, 5th Feb 2013, cited 20.10.2013, http://inthesetimes.com/uprising/entry/14539/modeling_capitalist_dystopia_honduras_renews_push_for_privately_run_cities/

1832 Kueng, Max, "Former 'Seasteaders' Come Ashore To Start Libertarian Utopias In Honduran Jungle", 31st Oct 2011, Co.EXIST, cited 20.10.2013, http://www.fastcoexist.com/1678720/former-seasteaders-come-ashore-to-start-libertarian-utopias-in-honduran-jungle

1833 See: "6.2.3 Appendix 2.3: Effects of LVT on Land Value - The Optimal Land Tax Rate?".

education[1834]), state B would be much more competitive over talent and business in the long run.

A "startup city state" with untaxed private land ownership – state A – is practically a kind of *"pyramid scheme"*, where the "early adopters" – those moving in and investing first – can buy up the land (real estate) for a very low price and reap a disproportionate share of the value produced in the economy as "rise" in the value of his land.[1835] Instead, in city B, the fruits of the growth and increased productivity of the city state are distributed far more evenly between all those who have moved in at different points in development. The land tax would also keep land in the most productive use available, increasing total productivity, and actually reducing rent costs to companies by spurring more and more efficient construction. More on this in "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

The "inventor" of the charter city, Paul Romer, also suggests using land value rises as a source of public revenue:

> "How would we finance [setting up charter cities]? Turns out that Singapore and Hong Kong were cities that made huge gains on the value of the land that they owned when they got started. You could use the gains in the value of the land to pay for things like the police, the courts, but the school system and the healthcare system too, which make this a more attractive place to live – make this a place where people have higher incomes, which incidentally makes the land more valuable. So the incentives for the people helping to construct this zone and build it and set up the basic rules, go very much in the right direction."[1836]

However, Romer seems to suggest that this public revenue should come from *land sales*, instead of land taxation or rents. Selling land for freehold is a fairly temporary and unsustainable form of income and leaves the pyramid scheme problem.

1834 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

1835 This is a similar problem as with e.g. bitcoin, see: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

1836 16:12->, Romer, Paul, 2009, "Why the world needs charter cities", TED Talk, viewed 20.10.2013, http://www.ted.com/talks/paul_romer.html

3.5.3 The Advantage of the Possibility of Negative Interest Rates

In short:

- ***Eliminating the zero lower bound and imposing a fee on the government deposit guarantee essentially mean removing the minimum wage of capital and the subsidy on unproductive capital, which – similarly to removing minimum wages and subsidies for unproductive work or unproductive anything else – should by no means be harmful to an economy's competitiveness.***
- ***Lower interest rates (lower yields on risk-free financial assets) result in devaluation of a currency, making labor relatively cheaper in the region using that currency, encouraging productive investment.***
- ***Becoming less competitive over unproductive capital (risk-free credit) makes the economy more competitive over productive (i.e. risk-bearing) capital.***

> "If interest rises, capitalists can save; if interest falls, they must save." – Silvio Gesell, The Natural Economic Order (1916, Part 5, Ch. 5)

What about the higher target inflation or otherwise lower interest rates? Doesn't this add to a company's real operating costs as well? Inflation only "taxes" physical cash directly as nominal interest rates compensate for the inflation. As most companies hold little physical cash, the higher target inflation rate itself makes little difference.

However, when interest rates are low, bank account deposits in this currency also receive a negative real interest. This will encourage companies to optimize their operating cash[1837] reserves yet better than they do now, but this unprofitability of holding local deposits and cash balances does not make operating in a country – nor investing in productive ventures or assets – significantly less profitable.

1837 Meaning, in this case, not only physical cash, but also liquid account balances.

But when there is no "safe haven" for capital in a country, it is likely that risk-averse capital "flees": Investors with little willingness to carry risks move their deposits to other countries or invest in bonds of other states with higher real interest rates. So would this flight of capital wreck the root-debugged economy? For example Thomas Piketty (2013), in his recent book "Capital in the 21st Century", suggests "taxing capital" to prevent income and wealth inequality from increasing – and admits that these taxes would have to be globally coordinated to prevent assets from being moved to tax havens.[1838]

But taxing all capital and lowering interest rates on risk-free credit are two very different things. In the case of a root-debugged economy, *productive* capital[1839] is not taxed anymore than before – actually less.[1840] Lower interest rates do not make productive investment any less profitable – quite the contrary. It is only *risk-averse capital* that flees: Savers and investors will want to buy foreign bonds and deposits with the savings in their local currency which earns a lower risk-free return. And what does this do to currency exchange rates? E.g. euros – whether cash or deposits (liquid credit from banks denominated in euros) – cannot be *converted* into dollars in themselves, but they have to be *traded* for them. Therefore, increased demand for financial assets denominated in foreign currencies results in a *depreciation* of the local currency[1841] – which *lowers* relative real wage levels and thereby labor costs.

As relative labor costs drop with the depreciation of our country's currency, this increases our nation's competitiveness over risk-tolerant (and hence productive) capital and the increased competition for our labor starts raising our wage levels, which forces our central bank to raise interest rates to prevent inflation from getting out of hand.[1842] These raised interest rates then also start reducing the exodus of risk-averse capital.

If our government also charges for its deposit insurance ("taxes" risk-free deposits),[1843] and other governments don't, this puts an additional "wedge" between our banks' lending rates and rates depositors receive on their deposits. As a result, it is likely that our country's banks can't afford to raise deposit interest rates so that the post-insurance-fee rates would match foreign deposit rates, as this would raise the costs of the loans they can make above those of banks in other countries, inducing citizens and companies to rather take foreign loans – and trading the foreign money back into our money, causing some balancing revaluation pressures.[1844] It is hence likely that deposit interest rates (and hence government bond rates[1845]) remain lower than in other countries (even when those other economies are not at their zero lower bounds[1846]).

Hence, most foreign demand for the country's currency would be for the purposes of importing goods or making direct real investments, avoiding harmful revaluation of the country's currency due to e.g. foreign hoarding of cash or bonds.[1847]

Other countries have the following options of how to prevent the revaluation of their (government-subsidized) currencies and the resulting loss of competitiveness:

- The central bank starting to buy up our country's cash or government bonds.
- The central bank or other governmental institution investing in productive assets or business-risk-carrying financial instruments (company shares) in our country.
- Facilitating negative real interest rates in their country and imposing a fee on their public deposit insurance (removing the government subsidy) as well.

1838 "The policy recommendation that has attracted most attention is Piketty's breathtaking call for global taxation of capital." ... "(Piketty calls it, possibly in a nod to John Rawls, a "useful utopia")" ... "Nobody believes that it could be implemented hic et nunc, and neither does Piketty" (Milanovic 2013, p. 16)

1839 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

1840 See: "3.5.2 The Advantage of Lower Transaction Taxes and Efficient Allocation of Limited Resources".

1841 Thus should not be confused with the "international Fisher Effect" (IFE), which states that differences in *nominal* interest rates between countries reflect expected changes in the spot exchange rate between the countries' currencies, so that the currency of the country with the higher nominal interest rate is expected to *depreciate* against the currency of the country with the lower nominal interest rate. The logic of the IFE is that the higher nominal interest rate reflects expectations of a higher inflation rate and the higher inflation rate is expected to cause a devaluation of the currency. (Eun & Resnick 2011) This seems to assume fairly similar real interest rates and productivity increases between the countries. In the currency-depreciating effect of fixing the Root Bug, we are talking about the possibility of negative *real* interest rates, which make a country's risk-free financial assets less lucrative to hold – also compared to foreign ones – which imposes devaluation pressures.

– "International Fisher Effect", definition, InvestorWords.com, cited 26.11.2013, http://www.investorwords.com/7359/International_Fisher_Effect.html

1842 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level - And Has Little to Do with the Quantity of Money" and "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

1843 See: "4.2.2 Setting a Fee on the Government Deposit".

1844 Taking such foreign loans just for a slightly cheaper nominal rate would be rather foolish because the borrowers would be subjecting themselves to currency exchange rate risks, which can be huge in foreign loans, as was seen e.g. with Iceland's financial crisis in 2008 and in Finland in the early 90's. Similarly, even though the returns available in foreign credit (and real estate) can raise the profit requirements of local productive investments, they don't do it as much as the return on local risk-free credit does, as they are "not quite as risk-free".

1845 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".

1846 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

1847 See: "4.2.3.4 [illegible] Investors and Central

- Imposing massive restrictions on both foreign trade (e.g. tariffs) and financial markets.

In the first-mentioned approach, the foreign central bank would practically be *paying us* for attempting to devalue its currency: It would be paying (possibly) negative interest rates on our bonds it hoards, while simultaneously our economy's investors holding foreign credit are paid higher interest on subsidized foreign deposits and bonds. Rents and rises from foreign real estate investments would further give our investors unearned gains on the expense of the foreign economy (if such investments weren't restricted).

This is likely to cause a chronic deficit of the factor income balance for the foreign, non-root-debugged economy, meaning that their balance of trade would have to be strongly positive to keep current accounts leveled.[1848] In other words, they would be providing us goods and services practically for free.

The second approach is making more risk-bearing capital available for investments in our country and further reducing the costs of capital for making productive investments. As in the first approach, the central bank is essentially making non-optimal investments, i.e. relative "losses". If the investments weren't "bad" ones, why wouldn't the private sector be making them? Such central bank policies become very expensive to sustain in the long run.

The third option seems by far the most sustainable one. Practically, a higher, stable target inflation rate and setting a fee on the public deposit insurance would almost force others to follow suit – or to start limiting foreign trade and investments significantly. This of course would do more harm to the growth-dependent foreign economy than ours.

The first two – buying foreign assets, i.e. selling their domestic assets – are the regular way in which countries normally fight the currency war and keep their currencies undervalued.[1849] Finland did this many times before the euro era to boost industrial output[1850] and the Swiss central bank is using these kinds of operations – and threats thereof – to maintain the ceiling rate it has set for the Swiss franc[1851]. Norway conducts extensive foreign investments through its $700 billion "pension fund" to maintain their massive current account surpluses.

China is also very active with foreign investments. However, in the cases of Russia and China, it would be narrow-sighted to ignore the role of the very volatile and relatively high inflation in keeping their currencies undervalued in relation to e.g. the euro or U.S. dollar. No foreigner hoards up rubles or yuans just as a "store of value" as one might dollars, euros or francs. However, the *instability* and *unpredictability* of price levels in yuans and rubles also raises lending interest rates and the risks of operating in these countries, which is detrimental for competitiveness.

In short, being uncompetitive over risk-averse (non-productive) capital makes an economy more competitive over risk-bearing (productive) capital.

A relatively high, but stable inflation (or eliminating cash) to allow negative real interest rates and imposing a fee on the government deposit guarantee would clearly be a superiorly competitive monetary policy compared to any current ones. Essentially, these policies are *removing the minimum wage of capital* and *the subsidy on unproductive capital*, which – similarly to removing minimum wages and subsidies for unproductive work or unproductive anything else – should by no means be harmful to an economy's competitiveness.

Issues concerning inflation and negative interest rates are discussed in more detail in "4.2.3 Other Benefits of Higher Inflation or Negative Nominal Interest Rates" and "4.2.4 Common Concerns with and Objections to Negative Rates or Higher Inflation".

1848 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game - Comparative Advantage vs. Absolute Advantage".

1849 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

1850 "In Finnish economic history, devaluations have had a significant role in boosting industrial output. Finland devalued its currency at least once in every decade from the 1930s to the 1990s." – "The growing years of Finland's industrial production", 15th May 2007, cited 10.4.2013, Tilastokeskus, http://www.stat.fi/tup/suomi90/toukokuu_en.html

1851 "Swiss central bank spent $US199 billion to enforce Franc ceiling", The Sydney Morning Herald, 8th Mar 2013, cited 10.4.2013, http://www.smh.com.au/business/world-business/swiss-central-bank-spent-us199-billion-to-enforce-franc-ceiling-20130308-2fp85.html

4 HOW COULD THE ROOT BUG BE FIXED

"We are in the domain of the social sciences: You can draw different conclusions from history and if you disagree with everything that's in part four this is fine with me, as long as you will find some interest in what's in part one, two and three. And ultimately the objective of the book [Capital in the Twenty-First Century] is not to tell you with certainty, what's going to happen to the future of inequality and what should be done, but rather to give everybody more information so that they can write their own part four." – Thomas Piketty[1852]

1852 7:35-> Piketty, Thomas, 2014, "Capital in the Twenty-First Century", video, London School of Economics and Political Science, viewed 27.6.2014, https://www.youtube.com/watch?v=JXOLiJY2Ehg

In volume "3 Why We Need to Fix the Root Bug", we presented the hypothesis that if we eliminated private monopolies and if earning opportunities were better allocated according to individuals' willingness to spend and invest, we would have a more stable, adaptable and fair economic system and have much better chances of solving our environmental and social challenges. In volume "2 Comparing Objectives and Means – Different Economic Schools and The Root Bug Hypothesis", we claimed that such a correlation could be achieved with incentives and policies that make sharing work legal, socially acceptable and profitable for employers and by facilitating negative interest rates, which would allow keeping the aggregate supply and demand for credit, and hence for labor and capital, in balance.

This book does not aim to provide a final model for the perfect economic system. This "How" section is mainly intended to show that the objectives presented in the first two sections are far from utopia. Most of the suggestions here are deduced as directly as possible from the economic models and the understanding of economic problems and human behavior presented earlier.[1853]

The Root Bug hypothesis is fairly fresh, and, taking into account how little effort has been put into testing it and developing solutions from the new perspective, it is quite certain that much better incentive structures, other ideas and combinations of them can be created once some proper research efforts are put in motion. There is no doubt that tremendous progress could be made with just a per mille of the research efforts and funding that have so far been poured into forms of "job creation",[1854] other ways to stimulate growth, and the constant lobbying and campaigning between different interest groups over which symptoms of our buggy operating system to focus on treating and how.

Ways to share your ideas and criticism are described in the fifth volume.[1855]

Although the theory is beautiful in its simplicity, there are a few bits the author considers ugly.

1. Many examples are used to show that taxing transactions (work, consumption, capital income etc.) makes little sense. However, the current conclusion is that we still seem to need some transaction taxes to make sharing work profitable – a Pigovian tax for overcentralizing work[1856].
2. In an optimal situation, the power of central authorities and the needs to regulate any prices is minimized. However, the current conclusion is that we need a central bank to control the market interest rate so that it keeps supply and demand in balance

1853 See: "1 A Brief Introduction to Economics".

1854 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and "6.2.5 Appendix 2.5: The Tyranny of Jobs"".

1855 See: "5 Why Not Before? And How Now?".

1856 See: "4.1.2.4 Continuously Progressive Payroll Taxes" and "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

> (and hence the price level predictable), because no market mechanism does that efficiently.[1857]

If you can come up with a prettier way of countering the externality costs of piling up work on fewer people or a decentralized market interest rate mechanism that actually works, we'd be interesting in hearing about it and seeing your demonstrations of it. As Karl Popper said it:

"Good tests kill flawed theories; we remain alive to guess again."

1857 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives", "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations" and "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

4.1 MAXIMIZING FLEXIBILITY TO ELIMINATE LABOR MARKET MISMATCHES AND INCREASE ADAPTABILITY

In short:

- *Sharing work has to be made so profitable for employers that they always want to give their employees the option of working less for less pay when there are more recruits available and that, in the case of reduced demand, they prefer to cut work from multiple employees instead of firing individual employees.*
- *By slightly "overdoing" the "sharing incentives" we can achieve competition over employees regardless of the demand for labor.*

"On the other hand, the 'market' for free time hardly even exists in America. With few exceptions, employers (the sellers) don't offer the chance to trade off income gains for a shorter work day or the occasional sabbatical. They just pass on income, in the form of annual pay raises or bonuses, or, if granting increased vacation or personal days, usually so unilaterally. Employees rarely have the chance to exercise an actual choice about how they will spend their productivity dividend." – Juliet Schor, The Overworked American: The Unexpected Decline Of Leisure (1992, p. 3)

"[I]t's not that hard for us to provide those things [that you really need to make yourself happy]. I mean the amount of resources we need to do that, the amount of work that actually needs to go into that, it's pretty small – I'm guessing less than 1 % at the moment. So the idea that everyone needs to work frantically to meet people's needs is just not true. I do think there is a problem that we don't recognize that and I think there's also kind of a social problem that at a lot of people aren't happy if they don't have anything to do – so we need to give people things to do." … "That's why we are busy destroying the environment and doing other things maybe we don't need to be doing." … "I was talking to Richard Branson about this … [problem that] there are not enough jobs in the UK, so he's been trying to get people to hire two part-time people instead of one full-time – so at least the young people can have a half-time job rather than no job – and it's a slightly greater cost for employers." … "You know, everyone I've asked – I've asked a lot of people about this – … if I ask them would you like (you know) an extra week of vacation, they raise their hand, 100 % of people. 'Two weeks', or '4-day workweek': Everyone will raise their hand. Most people like working – but they'd also like to have more time with their family or to do their own interests." – Larry Page (Google co-founder and CEO)[1858]

Top regrets of the dying, no. 2: "I wish I hadn't worked so hard." (Ware 2012)[1859]

<chorus of "9 To 5" by Dolly Parton>

1858 15:55->, 17:08-> & 18:36->, 2014, "Fireside chat with Google co-founders, Larry Page and Sergey Brin with Vinod Khosla", Khosla Ventures, viewed 27.7.2014, https://www.youtube.com/watch?v=Wdnp_7atZ0M

1859 Martino, Joe, "The Top 5 Regrets of The Dying", Collective Evolution, 27th Apr 2013, cited 22.8.2013, http://www.collective-evolution.com/2013/04/27/the-top-5-regrets-of-the-dying/

4.1.1 A Broader Perspective of Labor Flexibility

4.1.1.1 Forms of Employment Flexibility

In short:

- *Beyond the traditional "9-to-5 model", there are endless possible kinds of flexible arrangements that can be made in employment relationships, in terms of how much, when and where work is done and coordinated.*

> "The last thing I want to do when I get home from work is exercise. It's also the last thing I want to do after dinner or before bed or as soon as I wake, and that's really all the time I have on a weekday.
>
> This seems like a problem with a simple answer: work less so I'd have more free time. I've already proven to myself that I can live a fulfilling lifestyle with less than I make right now. Unfortunately, this is close to impossible in my industry, and most others. You work 40-plus hours or you work zero. My clients and contractors are all firmly entrenched in the standard-workday culture, so it isn't practical to ask them not to ask anything of me after 1pm, even if I could convince my employer not to." – David Cain[1860]

As mentioned in "2.3.3 The Paralyzing Assumption: 'Work Sharing = Work Time Restrictions'", mainstream economics unfortunately often tends to equate "work sharing" with shortening the legal workweek. On the other hand, making labor a "spot market" where every task is purchased separately is hardly efficient or realistic either. Luckily many forms of more flexible work arrangements within long-term employment relationships exist and have been recognized in other research fields.

1860 Cain, David. "Your Lifestyle Has Already Been Designed (The Real Reason For The Forty-Hour Workweek)". Films for Action, 23 Oct 2013. cited 26.6 2014. http://www.filmsforaction.org/news/your_lifestyle_has_already_been_designed/

Certainly, many more will be developed if we just give the market the opportunity and incentives to innovate.

An initiative by Alfred P. Sloan Foundation (from here on referred to as "the Sloan initiative") identified the following categories of "workplace flexibility":

> "(a) *short-term time off*, for workers who need time off because of illness or other extenuating family circumstances (e.g., a family member is ill a school conference is scheduled, there is a death in the family, there is an emergency home repair);"
>
> "(b) *full-time scheduling flexibility* for workers who desire to work full-time (forty hours per week for the full year) but in remote locations or on nontraditional schedules;"
>
> "(c) *reduced hours* for employees who need to work fewer than forty hours per week or less than a full year;"
>
> "(d) *extended time off* for workers who need to take an extended time off for health conditions or the needs of family members;"
>
> "(e) *career exit and reentry ramps* allow workers to take time off from the workforce entirely by making it possible for them to reenter the workplace at a later time without career penalties." (Christensen & Schneider 2010, p. 4, *italics* in original)

Avery and Zabel (2001) in their handbook "The Flexible Work Place", list among others the following arrangements:

- Flextime: Individual freedom to adjust starts and ends of work days
- Telecommuting: (also remote work) working from e.g. home or coffee shops instead of commuting physically to a central work place.
- Compressed work week: Working a regular work week (e.g. 35-40 hours) during fewer days, e.g. three 12-hour days or four 10-hour days.
- Job sharing: Splitting one earlier "job" between two people.
- Hot desking: Multiple workers using a single workstation or surface during different time periods.
- Permanent Part-time Work: An employment relationship with reduced hours.

- Leaves and Sabbaticals: An authorized period of time away from work without ending of the employment relationship.
- Phased Retirement: Part-time work (often reducing hours gradually) before retiring.
- Voluntary Reduced Work Time: Voluntarily reduced hours for a defined time period without loss of benefits.
- Work Sharing: Involuntary reduced work time, including legal restrictions of working hours.

The challenges with and objections to most of these are quite similar and will be discussed in "4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable". At this point, it is crucial to broaden our perspective of what "employment flexibility" or "sharing work" can mean in practice. For example the list by Avery & Zabel is strongly restricted by case examples, many of which have been instituted and replicated as legal obligations or are the results of bargaining between trade unions for collective agreements. If such restrictions, legal obligations and focus on readily packaged solutions were removed and companies were given a simple incentive to always share earning opportunities as much as possible – or as well as possible according to the employees' needs as possible – many new, innovative kinds of work arrangements would surely emerge.

Sidenote Box 4111A: The German 'Kurzarbeit' Scheme – Closer, but No Cigar

Incentivizing more distributed labor reduction ("internal flexibility") has been experimented with successfully for example in Germany with the government-supported *Kurzarbeit (KA)* scheme. The scheme was already used in the turmoil following the merger of DDR and BDR ("East Germany" and "West Germany") in the early 90s, but experienced a new boom, especially in the auto and metals industries, during the economic downturn that started with the 2008 financial crisis.

"Another reason for the "German Wunder" is that German establishments obviously do not practice labor market flexibility by numbers, but by hours." ... "Establishments did not lay-off their core employees, but instead reduced working hours temporarily. This was affordable due to the previous productivity gains in connection with moderate collective bargaining. In addition, de-regulations of the labor market increased its flexibility." ... "All in all, the combination of these reforms and instruments increases both the external flexibility of the labor market as a whole and, as well, the internal flexibility of the establishments. As a consequence, labor hoarding becomes an attractive alternative to "hire and fire". (Crimmann et al, 2010, p. 6)

"In the economic crisis, work sharing can be an important macro-economic stabilizer. Beneath the positive psychological effect for the individual of not being unemployed, it has as well an important impact on public sentiment and the perception of the level of unemployment. Consequently, the immediate benefits in terms of supporting domestic demand could be stronger than the same expenditure on unemployment benefits. Even with the same disposable income, a worker who is on a work sharing scheme rather than in unemployment could have a higher propensity to consume. This could help to explain why private consumption has held up remarkably well during the crisis." (Crimmann et al, 2010, p. 7)

The system encompasses three types of arrangements:

1. ***"Transfer-Kurzarbeit" for permanent loss of employment*** due to re-structuring measures on the establishment level to avoid mass layoffs.
2. ***Seasonal short-time*** work is mainly used in the construction sector and other "outdoor professions" to compensate for non-productive times due to weather conditions in the winter season

Continued on page 394 ►

> 3. ***Short-time work for economic reasons*** if there is a temporary, unavoidable loss of employment due to economic factors or to an unavoidable event – the most important type of Kurzarbeit. (Crimmann et al 2010, p. 13)

There are, however, significant problems with the KA system resulting mainly from the facts that (1) the arrangements are made case by case and (2) as a measure of last resort, (3)that they are required to be temporary in nature and that (4) the publicly paid compensations to the employees are relatively large and (5) this support is only open to industries and companies with reduced demand. (Crimmann et al 2012, p. 13-15)
As a result:

- The KA scheme does not remove the risk of unemployment, sustaining the incentive to save for personal security.
- KA does not remove growth dependence, but only slightly alleviates the cyclical effects of external shocks.
- KA is extremely expensive for the public sector if it persists (Crimmann et al 2012, p. 3)
- KA hinders structural adjustment on the level of the whole industry (as it provides a subsidy to declining industries and professions) and results in (wasteful) "labor hoarding", instead of fair and flexible competition between all industries. Simultaneously the crisis conditions ***required for*** this support postpone the adjustments of the organization (e.g. company) in question and incentivize it to remain in the crisis zone, making companies less productive and innovative (Crimmann et al 2012, p. 3).

The problems are hence similar to any kind of publicly funded, consideration-dependent support of private, profit-seeking institutions: It directs the focus of companies from their main business, as well as maximizing customer value and minimizing costs, to efforts for attaining such support. It also hampers fair competition. Instead, if the sharing incentives applied to all industries and companies without any special case requirements of crisis conditions (e.g. it being the last resort or a temporary fix), such incentives would not tamper with fair competition or encourage inefficiency. The rules would be the same for everyone without any incentive to maintain an image of crisis and trouble. Practically, the incentives would just be like a Pigovian tax encouraging staffing practices that are efficient in terms of the whole economy.[1861]

In order to eliminate the cyclicity-inducing effects of the fear of unemployment, the sharing incentives need to be such that reducing labor "within employees" becomes standard procedure and that, even in the case of layoffs, employees always have a chance to negotiate for at least some work somewhere else – and preferably so that one's negotiation position is the better the longer one has been unemployed (i.e. without income).

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861 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

4.1.1.2 Mid-Term Flexibility (1-5 Years' Scale) Is What's Relevant

In short:

- *"Sharing work" does not have to mean shorter workweeks, but can take the form of longer holidays between projects or even sabbaticals between jobs. Neither does it require being able to measure work in hours.*
- *What is relevant in terms of cyclicity, economic insecurity and structural adaptability, is that people (who don't want to spend or invest more) don't need to fear long-term unemployment – falling out of labor market completely – if they decide to have a break.*
- *Short-term (and especially short-notice) flexibility requests/needs from both sides of employment contracts have costs to the other party and find their market prices in a flexible and fair labor market.*

> "Also with the knowledge that right now we spend about the first 25 years of our lives learning, then there's 40 years that's really reserved for working and then tucked on at the end of it are about 15 years of retirement. And I thought that it might be helpful to basically cut off 5 of those retirement years and intersperse them in between those working years." – Stefan Sagmeister, TED Talk: The Power of Time Off[1862]

> "[Pensioners and the young unemployed], after all, are in exactly the same state of life: You both have too much time on your hands and not much money. But pensioners are reportedly very, very happy, whereas the unemployed are extraordinarily unhappy and depressed. The reason, I think, is that the pensioners believe they've chosen to be pensioners, whereas the young unemployed feel it's been thrust upon them. In England the upper middle classes have actually solved this problem perfectly because they've rebranded unemployment. If you're an upper middle class English person, you call unemployment 'a year off.'" – Rory Sutherland, Perspective is everything[1863]

The types of flexibility listed[1864] by Avery and Zabel (2010) are cases relating to an employee's specific life situation (e.g. retirement, parenting), practical arrangements of work (e.g. telecommuting, hot desking) or examples of how the arrangements contractually affect benefits and other rights assumed in labor legislation and collective labor agreements. In the case of the Root Bug hypothesis, when we talk about increasing individual choice and flexibility in how much one works, many of these specifications of types of flexibility are fairly irrelevant. What matters is the person's ability to affect her own *total income in the mid-term* – i.e. ***"macro-level flexibility"***. Let's define this category a bit more specifically.

By ***"micro-level flexibility"*** or ***"short-term flexibility"*** we mean flexibility where the timing for the need for the extra work (for the employer) or for free time (for the employee) is defined with the accuracy of a few weeks or less. This includes (i) **needs arising on a short notice** – which include a shopkeeper needing more hands in the middle of a surprisingly busy day, a sudden large order needing fast completion in the manufacturing industry or (from the employee's side) an employee wanting to stay home to take care of a sick child – but also (ii) **needs known beforehand,** like a family holiday trip during specific school holidays, or a scheduled inventory or maintenance period during which either additional overall labor or certain types of specialists are needed or there is no work for regular staff to do. Of the categories of the Sloan initiative,[1865] short-term flexibility includes short-term time off (a) and full-time scheduling flexibility (b).

Seasonal flexibility is distinguished from the latter in that the difference in needed capacity is known beforehand *and* that these differences occur annually or otherwise regularly, instead of as specific cases. This includes the skiing season in the Alps, Christmas season for e.g. the retail industries and postal services, summer in farming at colder latitudes and winter for snow clearing maintenance services. Seasonal employee-side ("supply-side") flexibility includes for example the high number of high school and university students available for low-skilled summer work and employees that for example want to take holidays sometime during the skiing season or the summer.

1862 1:30->, Sagmeister, Stefan, 2009, "The Power of Time Off", TED Talk, viewed 4.5.2013, http://www.ted.com/talks/stefan_sagmeister_the_power_of_time_off.html

1863 2:05->, Sutherland, Rory, 2011, "Perspective is everything", TED Talk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perspective_is_everything.html

1864 See: "4.1.1.1 Forms of Employment Flexibility".

1865 See: "4.1.1.1 Forms of Employment Flexibility".

All of the above types of flexibility demands have costs (or benefits) to the other party and if subject to fair negotiation in which employees always have options[1866], they will be reflected in the wages paid for such work. Employees who are ready to react to short-term needs of employers and to work more during high seasons will be paid more than ones of similar skills but lower willingness to adjust. Employees with more constant flexibility needs will be ready to pay the costs of this freedom as lower salaries.

But if there is any truth to Milton Friedman's Permanent Income Hypothesis (Meghir, 2004, p. 4), this kind of short-term or seasonal flexibility either way should not cause any economic insecurity for employees or long-term overcapacity risks for companies.

By **"long-term"** or **"macro-level flexibility"**, from the employer's side, we mean changes in the continuous underlying demand for labor in general or specific kinds of skills. In today's turbulent environment, such possibly permanent changes resulting from shifts in the competitive situation or from macroeconomic trends – cyclical or structural – can be observed usually at a timescale of 3 to 6 months.

What about the employee? If we think about an employee's total demand for earning opportunities – her need for income – what is a relevant time scale? Companies can go bankrupt very quickly, technological progress can make some kinds of skills redundant in a line of business fast and, in today's world, whole industries can die in years and hence the long-term cumulative demands for certain types of labor are very hard to predict. But people's total long-term need for income – their willingness to spend and invest[1867] – does not vary even closely as much and as often. If we were to take Irving Fisher's Theory of Interest (1912)[1868] or Franco Modigliani's life-cycle theory of consumption (Milanovic 2013, p. 14; Deaton 2005) as the truth, the relevant time scale would be a person's whole lifetime: People who like to first work and then play would work earlier and save for later and impatient people would take on huge amounts of debt during their youth and pay them off by working hard in their senior years. In reality, the latter option is not realistic, as many people have negative emotional associations with having debt and no creditor would trust the earning abilities of someone with hardly any work experience enough to grant him those amounts of credit (with affordable interest rates) – regardless of how profitable sharing work would be for employers.

Also, the macro-level variance in when people want to work is not just a matter of total income-leisure preference and macro-level time preference, but certain life situations have significant effects on the person's willingness to work. For example, a person might want to take more time off to stay at home during some part of his children's pre-school childhood (age 0 to 5) without any more specific timing requirements, or to travel around the world at some point between the ages 20 and 30.

So, the relevant timescale for an individual's macro-level income flexibility – in terms of economic development and stability[1869] as well as income security[1870] – **is closer to around 1-5 years.** It doesn't make much of a difference whether the person works shorter hours each week or whether he takes every fifth year off between jobs – as long as the person has some sort of trust in her ability to get back into the labor market after that time off.[1871] Therefore, **the ability to measure work in hours or any other specific unit is not a prerequisite for being able to "share work"**, i.e. to provide macro-level flexibility for the employee in how much to work. Of the categories in the Sloan initiative[1872] this includes reduced hours (c), extended time off (d) and career exit and reentry ramps (e), but there is no reason to consider this an exhaustive list of possible ways of achieving macro-level flexibility.

Stefan Sagmeister presented in his TED Talk "The power of time off" how he took every seventh year off – and how such sabbaticals increased his productivity and creativity over the following few years significantly.[1873] Of course, the "lower" the level of flexibility (meaning "the shorter the time scale"; not as in "the less flexibility"), the smaller the savings or debt buffers needed to smooth out the person's consumption needs and, likely, the better the employee perceives his income security to be.

Micro-level flexibility from either side has a cost to the other side and it should – and would in a fair labor market – be priced accordingly. People with a more flexible life situation (e.g. no family and no fixed-schedule hobbies) are probably likely to provide the flexibility needed by companies more affordably – when it isn't possible to match them with the flexibility needs of individuals, which would always be the optimal solution. Micro-level flexibility is also where staff leasing companies have (and

1866 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".
1867 See: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".
1868 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
1869 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
1870 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
1871 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free" and "Sidenote Box 415A: The Analogy of Substitute Players".
1872 See: "4.1.1.1 Forms of Employment Flexibility".
1873 Sagmeister, Stefan, 2009, "The power of time off", TED Talk, viewed 8.3.2013, http://www.ted.com/talks/stefan_sagmeister_the_power_of_time_off.html

will continue to have) the biggest added value potential: By diversifying the low-scale variance of individual companies, a smaller amount of flexible people can serve a large number of flexibility needs, while their long-term income security could be ensured. This, unfortunately, is not the current situation.

Currently, because also long-term reduction of labor bought from the company's permanent employees is very expensive and harmful to the company's brand (as it is considered "socially irresponsible"[1874]), staff leasing companies also have a lucrative business in providing macro-level (cyclical and structural) flexibility. Many companies like to keep a 10-20 % buffer of *external labor* to allow adjusting to changes in demand due to e.g. cyclical trends, structural changes, productivity improvements or drops in market share. This is the type of flexibility need that causes the most long-term income insecurity for this external workforce as e.g. cyclical and structural changes cannot be diversified among client companies ("labor lessees") like short-term needs can – especially if e.g. legislative or union pressure forces companies to minimize this buffer of flexible labor.

Dennis Finn, the global HR manager of PwC used the term "flexible workforce" to refer to this kind of external labor used to meet the flexibility needs of companies. He predicted an increase in this kind of labor compared to "traditional", fixed-contract employees, but an even bigger advent of "the contingent workforce"[1875]: individuals willing to work extremely flexibly both in terms of time and location. His estimate was that, in the near future, 1-1.5 billion people would be ready to work in this kind of extremely flexible, freelance style. The flexibility needs of the contingent workforce will be a significant factor in the competition over top talent (making companies develop flexible management and staffing systems), but they will also increase a company's possibilities of meeting the increasing demand for flexibility from its clients. The ability to fit these together is likely to be a major competitiveness factor. And Finn is not the only one making predictions along these lines:

> "Fewer companies will be willing to offer full-time jobs with health benefits or retirement plans when they can hire short-term contractors from anywhere in the world to do much of the work they need. Based on existing trends, some now predict the year 2020 will see 65 to 70 million freelancers, consultants, and independent workers representing more than half of all U.S. employees." (Richarson 2012)

Companies are also beginning to see the importance of workplace flexibility in retaining accumulated competence capital (avoiding "brain drain") and reducing recruiting costs. In Finn's view, rigid organizations are the ones constantly firing and hiring employees (practicing "external flexibility"). Contingency can be a competitive option in terms of attracting talent depending on how people are treated – whether managers are able to create a culture that encourages people to perform. Company culture is one of the few hard things for competitors to copy. Yet, Finn says, companies have a long way to go in flexibility. As areas of development, he mentions chances to do sports in the middle of the workday and the possibility to share jobs between people.[1876] [1877]

The work life revolution is progressing full throttle: Traditional 9-to-5 jobs and management systems dependent on them are flying out the window by the minute. (Halava & Panzar 2013; Tuominen & Pohjakallio, 2012) Only legislation, labor market organizations, the economics discipline and our work ethics lag behind.

4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs

In short:

- ***The objective of work sharing incentives is not to hamper people's ability to work more, but to increase their opportunities to work less and minimize the risks of long-term unemployment – make cumulative future income more predictable.***
- ***Sharing work has to be made so profitable for employers that they always want to give their employees the option of working less for less pay when there are more recruits available and that, in the case of reduced demand, they prefer to cut work from multiple employees instead of firing individual employees.***

1874 See: "4.1.6.2 Making Sharing Work Socially Acceptable".

1875 Woodward, Michael, "Freelancing in America: Rise of the Contingent Workforce", Fox Business, 30th Sep 2013, cited 14.7.2014, http://www.foxbusiness.com/personal-finance/2013/09/30/freelancing-in-america-rise-contingent-workforce/

1876 Finn, Dennis, 2012, "The Workforce of the Future – how it's looking and what is driving it", guest lecture at Aalto University School of Economics, 20th Nov 2012.

1877 Ilkka Halava and Mika Panzar (2013, p. 5) argue in their book "Rytmitalous" (Rhythm Economy) that "time-spending business" (e.g. entertainment and travel) and "time-saving business" (e.g. household appliances and delivery services) will get alongside them a third kind: "rhythm business", where the success of companies will primarily depend on their ability to "find space in people's everyday lives".

> "Ironically, the tendency of capitalism to expand work is often associated with a growth in joblessness. In recent years, as a majority have taken on the extra month of work, nearly one-fifth of all participants in the labor force are unable to secure as many hours as they want or need to make ends meet. While many employees are subjected to mandatory overtime and are suffering from overwork, their co-workers are put on involuntary part-time. In the context of my story, these irrationalities seem to make sense." – Juliet Schor, The Overworked American: The Unexpected Decline Of Leisure (1992, p. 7)

> "In large part, the history of technology is the history of labor-saving devices." ... "After centuries of technological advances, why do we find ourselves working just as much as ever? Why do most people on earth still live in a daily experience of scarcity? For centuries, futurists have predicted an imminent age of leisure. Why has it never happened?" ... "The reason is that, at every opportunity, we have chosen to produce more rather than to work less. We have been helpless to choose otherwise." – Charles Eisenstein, Sacred Economics (2011)

As explained in "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest", the two main objectives in attempting to make sharing work legal, socially acceptable and profitable for employers are:

- to give individuals a more realistic choice of how much they really want to work (and, hence, earn) without subjecting themselves to higher risks of long-term unemployment, and
- to make reducing work from multiple employees (or granting sabbaticals) the standard form of reducing labor instead of firing individuals involuntarily and permanently.

These are the minimum objectives. Making the incentives stronger would then start encouraging "forced sharing" to new additional employees without the initiative or consent of current employees and without reduced demand for total labor, resulting in a trade-off: Higher incentives give room for more structural flexibility and economic security, but start limiting individuals' possibilities to work more when they wish to do so, as they will have to make bigger concessions (e.g. take a bigger part of the tax progression on themselves[1878]) when competing over marginal units of labor (e.g. work hours, work weeks, customer relationships to manage, areas of responsibility) to sell.

The same incentives will surely affect different industries and professions in different ways and it would be very challenging to set up incentives discriminating between these without creating a lot of loopholes, corruption and unnecessary bureaucratic costs.[1879] Therefore, the optimal parameters for the sharing incentives will probably not be found on a first attempt, but it is more an iterative, "systems control" issue: It takes time to find the optimal parameters – and, when they're found for one situation, conditions will surely change.

It is likely worth it to conduct thorough empirical research among employers and running simulations using different models before implementing too many incentives in practice. We are interested in hearing about any ongoing research initiatives related to staffing practices of companies and how taxation and other policies influence them.[1880]

1878 See: "4.1.2.4 Continuously Progressive Payroll Taxes".
1879 See: "4.1.3.3 Other Ways of Encouraging Giving Work to Investors, Spenders and the Indebted?".
1880 See: "5.3.1 Suggested Subjects for Future Research".

4.1.2 Making Sharing Work Profitable

4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable

In short:

- ***Even without legally imposed fixed costs per employee and limitations to flexibility, there still exist significant overhead costs (e.g. administration, training, management, equipment and facilities) per employee and "benefits of scale" in piling up more work on individual employees – especially in positions of responsibility. These include effects on the working culture of the workplace.***

> "When a mature and able manager feels bored, he should seriously consider changing jobs, changing companies – or simply retiring. It is not fair to anyone for half a leader to hold a full-time leadership job." – James L. Hayes

> "In the starkest terms, my argument is this: Key incentives structures of capitalist economies contain biases toward long working hours. As a result of these incentives, the development of capitalism led to the growth of what I call 'long hour jobs.'" – Juliet Schor, The Overworked American: The Unexpected Decline Of Leisure (1992, p. 7)

> "Under what social and economic conditions would people prefer to work, earn and consume less, while spending more time with their families and enjoying more free time? What incentive would employers need to facilitate this?" – Miklós Antal[1881]

If the objective is to increase the room for individual choice and flexibility in the labor market and to avoid layoffs, the first step is figuring out:

- what it really is that prevents individual macro-level flexibility[1882] in how much one can work,
- what factors raise the threshold for companies to hire previously unemployed people, as well as
- what makes firing such a common form of adjusting to demand changes.

It is easy to get stuck on the conclusion that it is only overhead costs per employee that make sharing work unprofitable and underestimate the influence of cultural and attitude factors. If you are a social scientist, economist, psychologist, management researcher or an academic in some other relevant field and you want a topic with high social and economic impact potential for your thesis, dissertation or next journal paper, these questions are a good place to start! Please let us know if you or your colleague has completed, is conducting or is interested in undertaking such research projects by mailing to info@rootbug.org, with a title starting "Research Tip".

Findings from both the author's own research as well as previous studies (Avery & Zabel 2001, Christensen & Schneider 2010, Olmsted & Smith 1994) suggest a large number of potential issues that prevent individual flexibility and that make layoffs the preferable mode of labor reduction.

Many of these reasons are "natural" in the sense that they exist without any government or union intervention.

- Increased administrative costs or company policy restrictions (global standards and practices etc.)
  - Increased costs in accounting, recruiting etc.
  - Budgeting, HRM or other systems based on "headcount"
- Other increased overhead costs
  - Training
  - Management
  - Facilities and equipment
  - Employment benefits (through company policy, legislation or collective agreements)

1881 12:53->, Antal, Miklós, 2014, "Plan B – is there an alternative to economic growth?" TEDx Talk, TEDx Danubia, viewed 27.6.2014, https://www.youtube.com/watch?v=J9_Xc9wxByM

1882 See "4.1.1.2 Mid-Term Flexibility (1-5 Years' Scale) Is What's Relevant".

- Increased risks of shared responsibilities (accountability, integrity of client, partner and supplier relations, risks of miscommunication etc.)
- Peer-pressure from co-workers
  - Envy of others getting (and taking) more "liberties" (despite them being available to everyone[1883])
  - Fear of more work being piled on others against their will (causing guilt and damage to one's reputation)
  - Fear of falling out of the social network of the work place
- Lack of trust between employees and management
- Incompetent or inflexible management and leadership
  - Managers' fear of loss of control
  - Management change resistance to new practices in general
- The idea of more flexible arrangements might simply never have occurred to anyone
- Lack of willingness from employees to earn less, resulting from e.g.:
  - Economic insecurity (in an uncertain economic environment)
  - Strong (quantitative) work ethics
  - High consumption preferences or desire to invest

However, the unprofitability of sharing is further increased by labor legislation and collective agreements. The idea behind these restrictions might have been – and the excuse for them still is – to increase economic security and to reduce income differences. Unfortunately, in today's world with turbulently evolving technologies and consumer preferences, these "achieved benefits" rather sustain unfair income differences[1884] and – more importantly – *increase* economic insecurity[1885] and reduc individual choice in how much to work by increasin the costs of sharing for the employer. Such restrictior include:

- Limiting or penalizing reduction of work bough from an individual, which:
  - Makes allowing individual flexibility mor expensive
  - Makes firing the only acceptable way o reducing labor
  - Increases the risks of recruiting and thereby the "life-cycle cost" of each new employment relation
- Legally enforced employer responsibilities or tax-reduction-subsidized employment benefits increase fixed costs per employee. These include:
  - Unemployment insurance payments
  - Health insurance and other health services
  - Pension plans and pension insurances
  - Car, phone and apartment benefits etc.
  - Arranged child daycare
- Legal requirements to control work hours and hence measure work in hours, even when it isn't optimal
- The contemporary conception of "social responsibility" as "not reducing labor"
- Legal limitations on what kinds of flexibilities and exceptions[1886] can be implemented in work contracts[1887]

The employee might be discouraged to work part-time or to take time off by:

- Significant reduction in the accumulation of pension benefits (especially in phased retirement)
- Total salary dropping temptingly close to the level of unemployment benefits[1888]

1883 This is a typical case where a person might react negatively to another person, simply because that other person's actions increase one's awareness of the *cognitive dissonance* in one's own decisions and objectives. Many people would fundamentally prefer more free time, but have then "brainwashed" or "psyched" themselves into workaholics because working less has not been a realistic alternative in the field where they are trying to build a career. Seeing someone else take more time off causes them to have to question the necessity of many of their own earlier decision and sacrifices – and an understandable defense mechanism against such a psychologically painful process is to demonize (or put down) the other person or her choices. See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

1884 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1885 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1886 See: "4.1.1.1 Forms of Employment Flexibility".

1887 Lack of "trust" (willingness to cooperate) between labor market organizations (unions) – the fear that the other party might abuse such freedoms – is often blamed for this. However, on an institutional level, we have to take into consideration the perspective that maintaining such a "lack of trust" very strongly serves the purpose of both labor and employer unions maintaining their positions of power. See: "3.2.3 Unionization and Strikes".

1888 See: "4.1.2.6 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

- Fear of loss of other employment benefits (car, apartment etc.) or legally defined seniority raises in salary
- Uncertainty of getting back into the labor market (after sabbatical or temporary career exit), due to high recruiting risks for employers.

The legal restrictions of flexibility in the labor market and common justifications for them as well as the fundamental causes of economic insecurity were discussed under "3.2 Local Social Issues". Thereby the chapters in this section focus mainly on the challenge of making sharing work a *profitable* option for employers. Social acceptability in the broader context of institutional change is discussed briefly in the subchapter "4.1.6.2 Making Sharing Work Socially Acceptable", but a deeper discussion on the ethical and other cultural issues related to work and consumption are left for the sister book "The Guilt Economy".

As companies are organizational forms fighting a constant battle of survival against each other,[1889] making sharing work profitable is also one of the best ways to promote developing management attitudes, leadership styles and company cultures that are more tolerant of – and even embracing the mutually beneficial opportunities provided by – more flexible employment arrangements. The forms that fail to adapt and make the most of the new opportunities lose their market share to more facilitating ones and die.

4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs

> "Trick employment policies are mainly about the citizen society paying taxes so that it can pay officials to pay wages for work which the citizen society needs in any case. Simplified this way, the whole arrangement is a kind of bureaucratic Goldberg's machine. Sure, if we go deeper into the subject, it quickly becomes apparent that this is about a way of whitewashing the circumvention of excessively tight labor legislation with the excuse of surveillance by government officials." – Lilja Tamminen (a Finnish green party politician)[1890]

1889 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1890 Tamminen, Lilja, "Tempputyöllistämisen hinta työmarkkinoille", blog post, 22nd Dec 2013, cited 7.1.2014, http://liljat.fi/2013/12/tempputyollistamisen-hinta-tyomarkkinoille/

In short:

- ***The first step in making sharing work profitable is to remove all artificial (incl. legal) obstacles, costs and risks of recruiting, i.e. buying labor from additional people.***

The first steps in making sharing work profitable – making the marginal cost of an additional unit of labor purchased from already employed employees higher than from workers with no work (or less work) bought from the – is eliminating all possible fixed costs per employee and unnecessary recruiting costs (including risks).

- Remove all legislative and other institutionally created obstacles to reducing the amount of work from employees.[1891]
- Make sure that the government does not charge any fixed taxes or other fees from employers according to headcount.
- Make sure that tax deductions or other policies do not require or encourage employers to provide employment benefits the costs of which are inevitably fixed per employee, i.e. not in proportion to the amount of work the employee does. This includes car benefits and health care services. If such benefits are deemed necessary (e.g. work-related health care), they should rather be offered directly by the government or fully subsidized by it.

These will lower the barrier to commence new employment relationships and give part-time work opportunities to the unemployed. When companies know that they are able to reduce the amount of labor they buy without huge penalties, rehabilitation costs or being labeled "socially irresponsible" for doing so, there is less pressure to pile up more work on current employees instead of hiring new ones – especially in uncertain market situations.

There is some research providing evidence that the marginal productivity of additional hours of work starts declining with higher amounts of work. Some research even suggests that working over 40 hours per week might decrease the *total* productivity of an employee – making the marginal productivity of those extra hours *negative*.[1892]

1891 There can be some kind of required notice time (e.g. 2 months) for changing the purchased amount – just like in apartment lease contracts – but there is no reason why such notice times could not be left for employers and employees to decide among themselves according to how much value employees see in it – when employees have choices of where to work.

1892 James, Geoffrey, "Stop Working More than 40 Hours a Week", Time Magazine, 26th Apr 2012, cited 12.7.2014, http://business.time.com/2012/04/26/stop-working-more-than-40-hours-a-week/

Therefore, removing artificial overhead costs and adjustment penalties might be enough to make sharing work profitable in some industries.

Currently, labor legislation, instead of facilitating part-time work, tends to do the exact opposite. For example, Finnish employment contract law, chapter 2, §5, says:

> "If an employer needs more employees for tasks that suit his part-time workers, the employer has to offer these tasks to his part-time workers."[1893]

The biggest probable objection to removing wage restrictions and to other kinds of deregulation is the idea (successfully sold to us by the union institution[1894]) that removing these legally required or collectively bargained benefits would be a loss to all employees and would result in companies making bigger profits. This argument can only be justified in a situation where the employer has a monopoly position in the market in which it operates, or competition is otherwise inefficient. Competition is what should keep profits in check. As Milton Friedman said, companies themselves cannot be taxed: Any taxes on business are finally paid either by employees, customers or shareholders.[1895] And as long as competition in an industry works fairly and the profit requirements of capital (which are determined by the yield of the risk-free investment option, i.e. deposits and bonds[1896]) remain the same, the long run profitability of an industry will not be changed by any corporate tax or capital income taxes: Raising them will only reduce investment and competitive pressures to allow after-tax profits to reach the same level as before, moving the costs of the tax onto either consumers as higher prices of the produced products and services or on employees as lower wages. And this same mechanism applies to any other costs imposed on businesses externally. Therefore, the benefits lost in removing these legal requirements from employers would return to the employees as higher pay or lower living expenses. (The former is more likely when the markets for goods are globally open, while labor markets are not.)

If an industry has a natural monopoly position, it would be able to make unfair profits regardless of any legal employer requirements. Therefore, in such situations, too, a better alternative than collective bargaining for benefits would be to make such industries public industries.[1897]

4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People

> "The sum of local optimums is not the global optimum." – Unknown

In short:

- ***The choice of buying the required work from fewer people instead of a larger number of people is the option that is efficient from the perspective of an individual company, but inefficient in terms of the whole economy – i.e. it has negative economic and social externality effects.***
- ***These negative exernalities result largely from the game-theoretical setting it causes for employee-consumers ("The Consumer's Dilemma"), where they don't have the realistic, safe alternative to work less.***
- ***As with any activity with negative externalities, setting a Pigovian Tax on it would make the market work more efficiently and get supply to meet demand better on the individual level.***

Why companies lay off employees instead of reducing work from everyone – even in the absence of any artificial fixed costs – is often explained by the fact that it is "the more efficient alternative". This is also supported partly by the idea of "implicit contract theory": Because companies are "risk-neutral" and consumers are "risk-averse", it is a mutually beneficial option to guarantee employees a fixed amount of income and that the company carries more of the risks of variance in demand. This logic works fairly well for *temporary* demand fluctuations in a world with a fairly stable long-term economic development trend. However, in a more dynamic environment with fiercely competing companies and whole industries emerging and dying within years, imposing such rigidity is not a sustainable way of increasing economic security for employees, as it causes layoffs to occur in bigger bunches and increases the likelihood of unnecessary bankruptcies.

1893 The original law text in Finnish from Työsopimuslaki, 2. luku, §5: "Jos työnantaja tarvitsee lisää työntekijöitä, hänen osa-aikatyötä tekeville työntekijöille sopiviin tehtäviin, työnantajan on tarjottava näitä töitä osa-aikatyöntekijöille."

1894 See: "3.2.3 Unionization and Strikes"

1895 36:08->. Friedman, Miiton. "Myths that Conceal Reality", presentation, viewed 2.12.2012. http://www.youtube.com/watch?v=zNtKk2E-mI-o

1896 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

1897 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

which are just as much a threat to the employees' income security as layoffs.[1898]

Another theory explaining layoffs is that of "efficiency wages" expressed by Alfred Marshall in the 1920s. It has been shown that some classical unemployment[1899] exists naturally even without wage restrictions. One explanation for this is that companies pay employees more than the market equilibrium wage to get them to work harder. There are a number of different potential reasons why employers might consider "efficiency wages" worth paying:

- Avoiding shirking (intentional lower productivity or avoiding work): Higher pay and higher risk of unemployment increases the risks associated with not putting in one's best effort. This is especially relevant for minimizing corruption in positions with a lot of power.[1900]
- Minimizing turnover: It is often worth paying extra to increase employee loyalty in order to avoid the education costs of new employees and the risks of valuable information leaking to competitors with shifting employees.
- Sociological theories regarding the effects of the higher wage on worker morale, through a higher sense of responsibility and worthiness.[1901]
- Adverse selection: When the skills of workers cannot be fully assessed beforehand and/or when individual flexibility in wages is limited, paying higher wages allows the company to attract more of the "better" employees for candidates to choose from.
- Nutritional effects: When wages are close to subsistence level (e.g. in developing countries), paying your employees more might allow them to take better care of their health by e.g. eating more nutritious food, which increases their productivity.

These – together with the earlier-mentioned natural and artificial fixed overhead costs per employee – make firing individuals the most profitable way for the employer to adjust to reduced labor demand and, when demand increases, encourages the employer to pile up work on fewer people (even against the employees' will) instead of hiring new ones.

However, the fact that this is the most efficient option for an individual company does not mean that it is the most efficient option in terms of the whole society or economy in the long run! It increases burnouts and other stress-related health issues among the employed (often overemployed) population,[1902] and, even more importantly, causes the productive capacity of the unemployed part of the population to deteriorate due to lack of practice and lowered self-esteem due to a sense of rejection and uselessness.[1903]

As a metaphor, if a junior league coach or Physical Education teacher in a school wants his team to win the A-league championship this year, the most efficient option is to focus on training the first team only. However, next year many of the top players might lose their motivation or might move elsewhere due to e.g. graduation and the "sports productivity" of the whole club or school deteriorates significantly. It is a far more sustainable option to let everyone use the available facilities to practice at their level. This also allows for more success in lower leagues and other sports, and the reduced pressure on the first team might also help them maintain their motivation to play and stay in the sports club or school for a longer time.

Let's return to the analogy of a household, which was presented in "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!": It does not make sense to create more dirty dishes only to make it possible for everyone to participate in the dishwashing! Assume we have a household (a large family or community of friends) with twelve members and three kinds of chores that need to be done: cleaning, cooking and dishwashing. Let's assume that the people in the household want things to be "fair" in the market-economy-sense that no "free-riding" is allowed: Everything received needs to be earned. Everyone living in the household needs to participate in enough chores to compensate – "pay" – for their share of cleaning. Instead, only people participating in common dinners need to participate in dishwashing and cooking or compensate for them by doing more of other chores.

A household might initially share all chore shifts evenly and then allow shifts to be traded for other shifts if

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1898 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity".

1899 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

1900 See: "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power".

1901 It is a problematic trait in modern Western culture and morality that money is considered almost a "definition of value", and hence wages are seen as a measure of the value of work or the worthiness of the employee himself (more on this in The Guilt Economy). But on the other hand, intrinsic motives are often far more effective at inducing productivity (especially creative productivity) than external motivators like wages are (see: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand").

1902 See: "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life".

1903 This "hysteresis effect" – how the expected duration of one's future unemployment rises with the duration of unemployment so far, and how, as a result, unemployment rates that have once risen tend to be very sticky – was discussed in "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

someone e.g. wants to specialize in cleaning only. Everyone willing to participate in common dinners would – in the mid-term – get enough of chore shifts (any combination thereof) to compensate for those dinners. Now, the most efficient way of getting all chores done – in terms of only minimizing required total work – would be that one person specializes in cleaning, another in cooking and a third in dishwashing, and others do nothing at all. And if you were to establish a company – or two competing companies for each "industry" – to arrange the dinners and cleaning, they would do just that. The dinner companies would hire only two employees each and pay them with vouchers of "completed chores", which grant them access to the accommodation and the dinners. But by doing so, the companies would essentially kill most of their own "market", as no one but those that they hired could afford to participate in the dinners. As a result, the chefs' and dishwashers' skills are also wasted – just as much as they would if everyone got to participate in the cooking and dishwashing. Eventually, the ones that wouldn't get to participate in any chores – and hence compensate for their share of cleaning either – would have to be kicked out of the house or supported from "taxes" charged from the employees participating in the chores, i.e. the others' chores would also be done by the employed ones – which is hardly fair or efficient.

There is nothing efficient about closing half the household (of e.g. 12 people) completely outside the "chore market system". In this case, efficiency is even reduced, as the 4 people hired by the two dinner companies and the 2 people hired by the cleaning companies would only be able to "sell" small dinners to each other. Of course, the people left "unchored" could try to provide other services to other inhabitants or the household could start eating more complex dinners that require more cooking or dishwashing work, which would then allow everyone to participate in the chores again, but this should by no means be necessary just to allow the system to continue functioning. Everyone should get to participate in the chores regardless of how many domestic services are considered worth the work they require.

Similarly, in a larger economy, the fact that companies reduce labor by firing individual employees is in the short run a profitable option for each, but the economic recession that the resulting unemployment (and fear thereof[1904]) might cause is also bad for their own business in the longer run. However, a single company sharing work ("cooperating" or "playing blue" in game-theoretical terms), would lose out in competition – just as in the household, everyone would want to eat the dinners cooked by the two experts, as they provide a better price-quality-ratio. Also, the people hired by the dinner company would not want to give up their jobs even temporarily, as th company would prefer to keep someone more "loyal" an be unlikely to hire the well-intending downshifter agair For the ones employed, it would be safer to just kee the others unemployed and from competing over one' privileged position.

Instead, if the situation was such that it was alway profitable for companies to first provide as many people a possible with at least enough earning opportunities to liv hand-to-mouth and only then start piling up more work on each, this would not reduce the earning opportunities of anyone: A person spending what he earns immediately is "creating" an equivalent amount of demand for labor as he is supplying labor. (This means hand-to-mouth income in the medium term and includes preferring to hire full-time employees who have just come off sabbaticals or have otherwise been unemployed.)

We could hence say that piling up available work on fewer people has both social and economic *externality costs* – similarly to how economic activities that pollute the environment or use up natural resources have externality costs on people that do not take part in the transaction and cannot influence the decisions being made.[1905] The fact that people who "downshift their consumption" do not have the safe and realistic option of "downshifting their earnings" by working less, is a major factor that turns this decreased total demand into unemployment of other people – decreases the correlation between people's income and their willingness to spend and invest.[1906] If "consumption (and investment) downshifters" always ended up being "work downshifters" (in the mid-term), they'd simply be a smaller part of the economy without limiting others' chances of working and spending as much as they want.

Arthur Pigou, after whom "Pigovian taxes" are named and who is credited for the concept of economic externalities, referred to these externalities more broadly as "divergences" between the "the marginal social net product" from "marginal private net product." (Hovenkamp 2009, p. 635-636) Up until today, a Pigovian Tax is often considered the most efficient way of *internalizing* the externality costs to the participants and preventing the externalities from causing market failures – or at least alleviating such failures.[1907]

When there is a form of activity – like the use of fossil fuels in production[1908] – which is efficient for an individual

1904 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

1905 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".
1906 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".
1907 "Pigovian tax", entry, Investopedia, cited 14.6.2013, http://www.investopedia.com/terms/p/pigoviantax.asp
1908 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

company (or person) but inefficient in the long run for the whole economy (in terms of its "marginal social net product" or "national dividend") it should have a Pigovian Tax put on it to match the divergence. Similarly, the continuously progressive payroll taxes could be seen as a Pigovian Tax on the harmful externality effects of piling up work on fewer people.

Now, a devout unionist might say that a company reducing labor at all is imposing externality costs on the rest of the economy as it reduces the employees' income, but that isn't quite true. When a company finds a way of doing things e.g. 10 % more efficiently and cuts its employees' work by 10 %, the employees, while losing income, also receive the benefit of more free time. Additionally, the shareholders receive extra profits temporarily, and in the long run, competition (in the absence of monopoly) moves the added value of the productivity to consumers of the company's services.

If all companies managed to improve their production efficiencies by 10 % and reduced 10 % of labor from all their employees, initially the only effect would be increased profits in which case "the marginal social net product" to shareholders equals the "marginal private net product." As prices eventually drop 10 % with competition, the costs of products would drop just as much as people's incomes drop and no one's real income would've changed. The "marginal social net product" actually exceeds the "marginal private net product" for employers. The only effect would be more leisure for everyone. In other words, companies making their processes more efficient and minimizing the work they buy has *net positive externalities* on the economy.

However, even when labor on the whole isn't reduced, piling up work on current employees has negative externalities on the economy compared to the alternative of giving part-time work opportunities to the unemployed, who would me more desperate for the marginal income – at least in the absence of social support. In the presence of a public unemployment support system, a company and its employees might collectively deem it a better option to fire some of the employees, as this allows them as a whole to gain addition income from – and therefore impose costs on – the rest of the economy in the form of unemployment support funded fairly equally from taxes paid by all sectors. This clearly shows the game-theoretical problem inherent in our public social support schemes.[1909]

Even in the absence of social support, a democratic decision by employees would also likely be firing some employees against their will. Increasing democracy in the work place does not solve the issue, as democracy allows the majority to oppress minorities.[1910]

Returning to the household analogy, an optimal solution is *not* that everyone has to participate in all chores. Specialization has its benefits.[1911] Neither is it optimal that everyone would be forced to do an equal amount of chores. Some people might not want to or be able to participate in common dinners as often as others or enjoy the products of other chores as much. And there is no reason to limit people's ability to come up with new favors they can provide for each other to compensate for existing chores and other favors – but there should be no reason to try to "stimulate" buying new favors just so that everyone would get a chance to contribute.

All that is needed is that, firstly, everyone is first and foremost given at least enough of chores – any chores – to compensate for the cleaning costs of their own living (comparable to a subsistence-level income in the bigger, "actual" economy) and then additional chores according to their desperation for them – i.e. that the allocators of chores (companies) always want to share chores between all willing and able participants – and that there is a system that discourages hoarding up "completed but unused chores" (i.e. credit) excessively, as such hoarding would prevent others from participating in the system or cause them to fall further behind in chores – into "chore debt" – against their will. An interest rate system with the possibility of negative interest rates would do the latter,[1912] and continuously progressive payroll taxes on income above subsistence level would do the former.

1909 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

1910 See: "6.3.2 Appendix 3.2: The Challenges with Democracy" and "2.2.3.7 Participatory Economics – 'Let's All Decide on Things Together'".

1911 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

1912 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

4.1.2.4 Continuously Progressive Payroll Taxes

In short:

- *Because the problem is a non-optimal allocation of earning opportunities (not of e.g. work time), the most effective – and universally applicable – solution is to set work sharing incentives (or, more accurately, work piling disincentives) according to each employee's total earnings.*
- *As there is no need to encourage sharing earning opportunities below a hand-to-mouth income level, it could be completely tax-free to pay a person wages up to sums that she is sure to spend immediately. After such a point, the taxation of work should be continuously progressive so that it always remains taxwise cheaper to buy additional (units of) work from people who have earned less income so far – cheapest from the ones who have been recently unemployed the longest.*

So, after removing the "unnatural" fixed costs per employee created through labor legislation and collective agreements, we still need to set a disincentive on piling up work on fewer people, in order to get supply to meet demand in the labor market on the individual level regardless of aggregate demand. The simplest and most universally applicable (irrespective of industry-specific traits) way to do this would be making payroll taxes strongly and continuously progressive according to the employee's total income. This also makes more sense than e.g. disincentivizing according to work hours, as what matters is how *earning opportunities* are distributed among employees[1913] – regardless of how much work they need to do to earn one dollar of income in the specific industry and with their individual productivity.[1914] Also, work hours are easy to report dishonestly (especially when it is in the interest of both the employer and the employee), and measuring work accurately in hours is almost impossible or completely meaningless in some lines of work (such as management or artistic work).

This will encourage giving at least some work to the unemployed – especially ones without any capital income (these should be included in the total income that determines an employee's marginal payroll tax rate). When the progression is strong enough, when there are no minimum wage limitations and when the interest rate is kept appropriate to keep aggregate supply and demand in balance[1915], everyone who is able to do anything valuable for others will be hired somewhere. Of course, an employee's added value to a specific company might be negative if she e.g. just doesn't fit into the company culture and is doing it harm, but there is always some job for almost everyone where they can produce some added value to others. Supply and demand affecting the relative prices of the units of different kinds of work (and similar work of different quality) would encourage people to consider professions with labor deficits and to develop more useful skills – as long as education opportunities and the sharing incentives ensure that everyone has options. (For implications for social support, see: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".)

If the employees in a company are paid according to their productivity and the sharing incentives are set according to each employee's total income, work would theoretically be shared so that the employees' incomes are equal,[1916] meaning of course more work to the less productive ones. In practice, however, wages are unlikely to fully follow productivity, because the negotiated wages are also dependent on other employment opportunities available to the employee. Therefore, in cases where the employee is well adapted to the specific company's culture and processes[1917] the employer will be able to grasp a bigger share of the added value of his productivity. This is likely to result in the most productive employees being offered more income opportunities than average. They are also more likely to be able to compete for the additional work by lowering the marginal wage they ask, i.e. taking on a bigger part of the progression of payroll taxes onto themselves.[1918]

As the end is to prevent "forced saving" (that employees don't have the option to earn less when they want to spend or invest more), [1919] there is no need to encourage sharing work below a likely "hand-to-mouth income level." Buying additional work from people earning less than such a level (including the currently unemployed) could be "tax-free",

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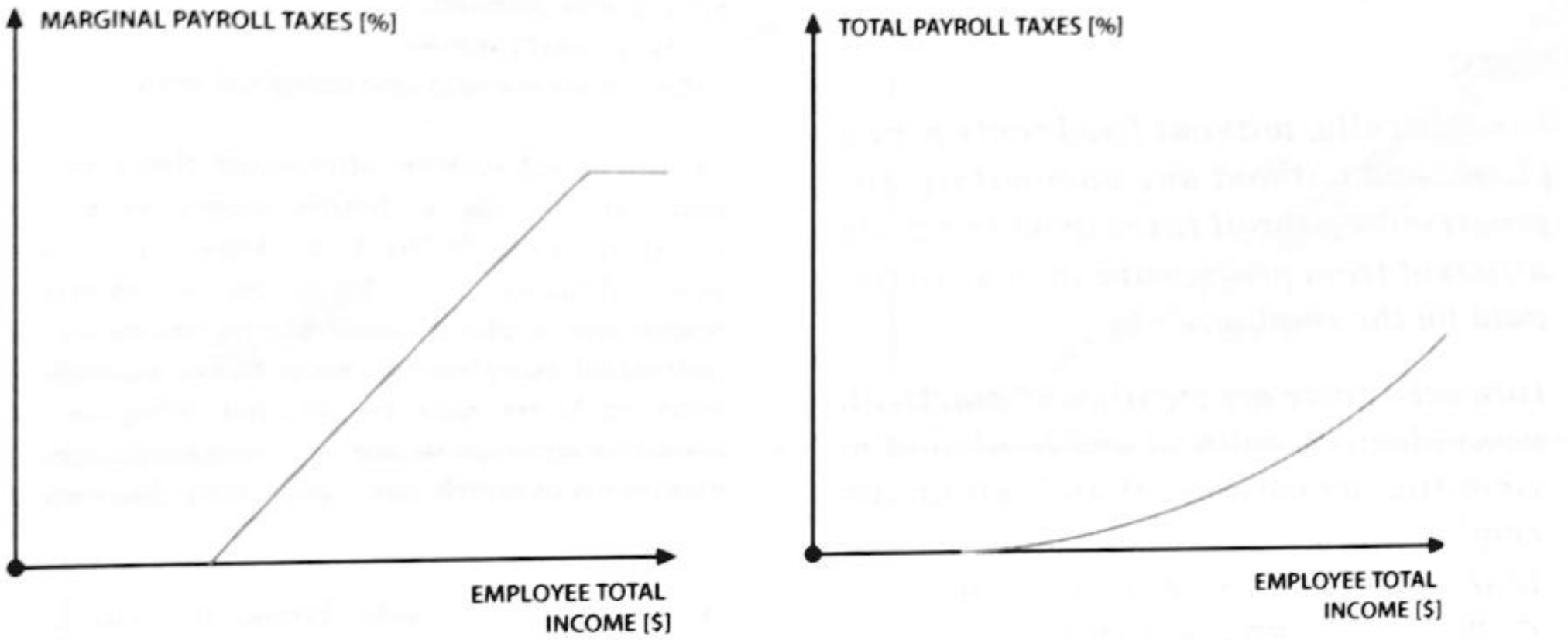
1913 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".
1914 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1915 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash.
1916 (assuming that workers are equally desperate for additional income and are not bargaining for additional work with lower wages)
1917 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
1918 See: "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".
1919 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing" and "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".



GRAPH 37: CONTINUOUS PROGRESSION OF PAYROLL TAXES.

and the progression of payroll taxes could be continuous from there on.

In Finland for example, we could free employees with annual income of up to 15 000 e of all labor taxes. After this, progression would be continuous – meaning that there are no "income brackets" within which the payroll tax percentage is a constant (or that these brackets would be very small, e.g. 1000 e of annual income). An initial suggestion could look as follows.

Marginal Payroll Tax Percentage
= (EmployeeTotalIncome – 15 000e) / 1000 e,
min. 0%, max. 100 %.

Finding the optimal progression rate to achieve the needed incentive for employers to share work is largely a systems control problem: The optimal parameters (tax-free limit, progression rate, maximum tax rate) will probably have to be found through experimenting – first with simulation models and then in practice. The biggest challenge is that the costs of sharing work vary between different industries and professions: A progression rate that is required to make it profitable to give a person in an expert or management position (with a high emphasis on client relations) the option to spend more free time (especially "continuously", as shorter workweeks, but also as sabbaticals[1920]) would probably make it unnecessarily unprofitable to allow "upward" individual flexibility in more routine jobs with lower sharing costs. It might seem sensible to attempt to find ways of discriminating between different professions and industries and setting different progression patterns for each, but such inequalities tend to cause a lot of extra bureaucracy and open windows for tax evasion – e.g. framing management positions as "consulting." Also, in a dynamic world, job descriptions and needed skills change rapidly and any categorization is likely to become outdated very soon.

In some professions, work is very difficult to share within a day, week or even a year: e.g. longer holidays might decrease the productivity of top management notably, as explained in "4.1.1.2 Mid-Term Flexibility (1-5 Years' Scale) Is What's Relevant". Therefore, the incentives should also encourage giving employees sabbaticals and make it preferable to hire employees who have taken breaks between jobs – which would decrease the personal financial risk for employees to take such breaks. Therefore, earning less than the tax-free rate could allow saving up the tax-free "income allowance" (of e.g. 15 000 e) for future years. However, setting a lifelong, cumulative progression of payroll taxes does not sound like a good idea, as this might, again, allow (and almost force) people to save up for an earlier retirement during the first parts of their careers.

1920) See: "4.1.1.1 Forms of Employment Flexibility".

4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?

In short:

- *Theoretically, without fixed costs per employee and without any nominal rigidities, progressive payroll taxes wouldn't be any different from progressive income taxes paid by the employee.*
- *However, there are significant practical, psychological, cultural and legal nominal rigidities, which make it difficult for an employee to pass such a progression on to the employer by e.g. demanding higher marginal hourly pay for additional amounts of work.*

Now you might ask, how are marginal payroll taxes effectively different from progressive income taxes? In theory, it shouldn't make any difference whether it is payroll taxes or income taxes that are progressive, i.e. whether it is the employer or the employee that nominally is required to cash in the tax. Yes, in theory that ignores for example nominal rigidities, cultural issue and work ethics, as well as game-theoretical considerations. If wages are negotiated freely and fairly by rational agents without transaction costs, supply and demand should determine how much each party carries of the "tax wedge", regardless of who finally "pays" it. In the case of progressive payroll taxes, the more desperately an employee offers lower marginal wages to negotiate for additional work, the more of the progression wedge she ends up carrying on behalf of the employer. But why hasn't the progression of income taxes already moved onto the employer and made sharing work a profitable option?

Well, firstly, there is the issue of fixed costs per employee – also including risks of labor reduction penalties – which make the cost of marginal work given to (labor bought from) already hired employees yet lower compared to buying work from new employees.[1921] But additionally, practice differs from the theory of perfect price bargaining due to the "nominal rigidity" of wages, the more general case of which is discussed under "4.2.3.3 Wage Elasticity with Nominal Rigidities". With *progressive* income taxation, there is the additional practical rigidity that it is simply easier to state a single hourly wage (or compensation for other unit of work, e.g. a fixed commission per sale) in a work contract than to write down a table or function for the prices of each marginal unit of labor. As can be seen with the help of Graph 38, for the tax progression to move freely between the employer and the employee with supply and demand, hourly unit prices (or prices of other units of work) quoted in the contract would need to be different for every single marginal hour.

In our current systems, there exist also legal and cultural nominal rigidities to hourly wages (or wages in other units) in addition to this "basic" psychological and practical rigidity. As for legal rigidities, in many countries, wages and working hours are regulated so that making individual exceptions is not easy. For example in Finland, working hours may be decided on quite flexibly, but collective agreements are far stricter regarding individual exceptions in hourly pay – especially downwards.

But even in the absence of legal restrictions, there is a strong cultural obstacle: Would it occur to you as an employee to offer your employer a lower hourly wage for the opportunity of having longer holidays or a shorter workweek? Or to demand a higher wage for being asked to work full-time or more? You'd probably be laughed out or at least branded a lazy and undedicated traitor by the working community. In labor markets where the situation is more often so that employees are competing over jobs – more than companies competing over employees[1922] – no one wants to take such risks and such a taint on their "employee brand". It is far safer to adjust to the "reality of the situation" and brainwash or "psych" oneself into being a workaholic with the help of e.g. a dream of an earlier retirement.[1923]

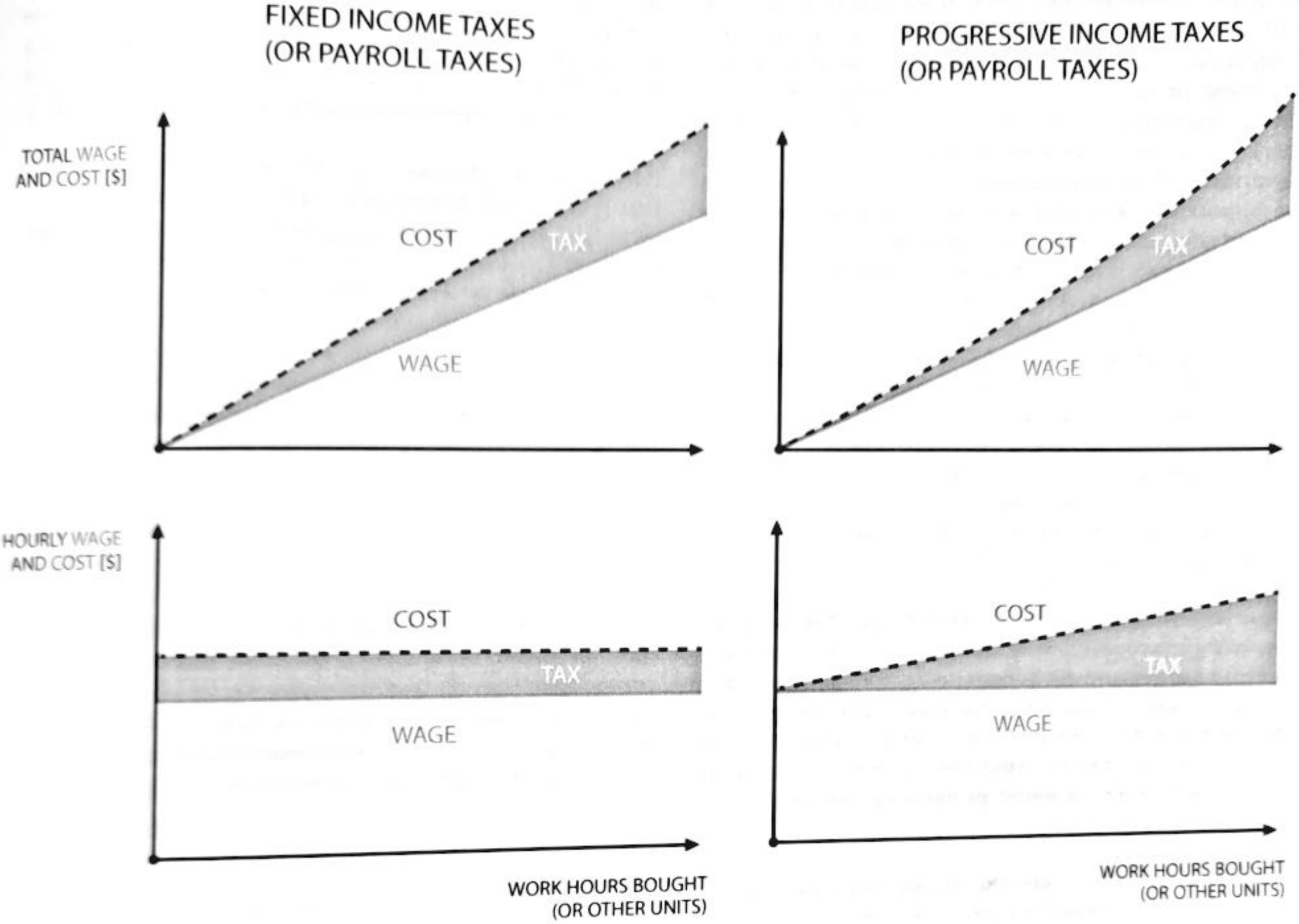
These cultural issues and our "Protestant work ethic" dating back over centuries are hard to overcome altogether. Just changing taxation without affecting what is considered "acceptable" and "socially responsible" won't change much. More on such moral and cultural evolution in "4.1.6.2 Making Sharing Work Socially Acceptable" and in this book's sister "The Guilt Economy". However, the progression being officially on the employer gives a whole different kind of validation for the employer carrying (part of) the tax wedge and might make management take into account the employee's other current and previous income when making hiring and resourcing decisions.

Practically the progressive payroll taxes make it more profitable to compete over employees with longer holidays and otherwise better working conditions than higher pay. Currently – especially with the economic uncertainty of

1921 See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs".

1922 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1923 See: "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".



GRAPH 38: THE TAX WEDGE BETWEEN COSTS OF LABOR FOR AN EMPLOYER AND EMPLOYEE INCOME.

the risk of layoffs[1924] and with money expected to maintain its purchasing power[1925] – additional pay (even on a higher marginal tax) is also a much more game-theoretically tempting option for an employee to accept in many cases.

There is a prevailing *functional fixedness*[1926] that progressive taxation can only be used as an *income transfer* (of unearned income) "from the rich to the poor". However, it is rather ineffective in that function,[1927] and it could instead be turned into an incentive encouraging a more efficient allocation of earning opportunities – a market-based *"earning opportunity transfer"*.

1924 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
1925 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
1926 See: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".
1927 See: "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics".

4.1.2.6 Avoiding Tax Avoidance through 'Entreployees'

In short:

- ***Capital income from entrepreneurial activity needs to be taxed at least as highly in total as the maximum marginal tax on wages, or companies will simply pay dividends or interest instead of taxes to their employees – or hire them as suppliers or "entreployees" providing "consulting services".***
- ***Otherwise, taxing capital income (or any income) makes little sense and should be minimized. (It is not effective at reducing the income share of capital either.)***

Although the primary objective of these sharing incentives is to increase individual choice in how much to earn, the progression of the taxation of work has the unfortunate side effect of making earning a lot through paid work (i.e. by supplying labor) more challenging – at least in some professions. This is likely to encourage those with more material or entrepreneurial ambitions to consider the alternative of setting up their own companies. An entrepreneur can of course choose exactly how much he chooses to work regardless of whether he pays himself salary or just dividends. (In the long run, that is. Of course entrepreneurs especially in scalable startups, are pressured to push themselves to the boundaries of their capabilities to get their company running – "the iron should be welded while it is hot").

And entrepreneurship is exactly what many governments try to encourage (although with excuses that are questionable and that fixing the Root Bug would partly render outdated[1928]).

However, as many of the restrictions ("protection") regarding employment contracts are removed, there is less added value for anyone in being on a company's payroll as "an employee", and therefore they might as well sell their services to companies as freelance partners and consultants – simply to avoid the income taxes. This is already happening in many professions (e.g. doctors in Finland).

The only sure way (that the author can currently think of) to avoid this kind of tax evasion is to ensure that the total taxation of capital income (currently the corporate tax plus the capital income tax) is the same as or higher than the maximum marginal taxation of labor. If you can come up with a way that allows lower corporate and capital income taxes, great!

As explained in "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources", it makes sense to reduce taxes on transactions and shift to "taxing" money itself and limited, vital resources. The only need for taxing work is the Pigovian Tax needed to make sharing work profitable. This is why it is optimal to remove taxes on labor completely from income levels below a hand-to-mouth level.

If for example the maximum marginal payroll tax rate was 50 % (on top of the nominal gross salary) and the maximum marginal income tax rate was 25 %, this would mean a total marginal tax rate of 50 % (downwards).[1929] Alternatively, we could remove the income tax paid by the employee altogether[1930] and just have continuously progressive payroll taxes up to 100 %.[1931] This could be matched by for example a 33 % corporate tax rate and a 25 % capital income tax rate, which are not much higher than those in many countries currently. (1 – 0.67 * 0.75 ≈ 50 %)

But this whole "double taxation" model is problematic in that it encourages companies to overleverage themselves as both taxes are paid for profits paid out as dividends, but only the capital income tax is paid for interest on credit finance. It would make more sense to eliminate the corporate tax altogether and implement a single, flat "source tax" on all capital income, 50 % in this case.[1932]

Such a strong progression of payroll taxes would likely not be necessary to make sharing work profitable if all possible fixed costs (including artificial recruiting risks[1933]) were removed. And notably, even if relatively high capital income taxes and maximum marginal payroll taxes were required, the total tax burden on productive activity and trade can also be reduced by lowering (possibly eliminating) consumption taxes (VAT and GST) when most of public revenues comes from monopolies (land, patents, infrastructure industries etc.), the fee on the deposit guarantee and negative rates on government debt,[1934] and when the government no longer has the implicit need to create work and preserve jobs.[1935]

Avoiding tax evasion also requires that all tax exemptions from for example any capital income tax are removed. For example in Finland, dividends up to 90 000 e and 9 % of a company's equity have been exempted from the capital income tax. The official argument for this is to encourage new entrepreneurs (behind which the argument is once again, surprise, surprise – jobs[1936]). However, the main effect is that it allows tax evasion through proxy investment companies, which also causes a lot of unnecessary bureaucratic costs including accounting work and work for tax consultants and other legal agencies. This is just one example of how our current political system is mainly a vessel through which interest groups attempt to steal from each other – trying to make everyone else pay taxes and get as much public subsidies to themselves as possible.[1937]

1928 See: "3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity".
1929 1 – 0.75 * (1/1.5) = 50 %
1930 See: "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".
1931 1 / (1-0.5) – 1 = 1
1932 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
1933 See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs" and "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions".
1934 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".
1935 See: "3.1.8 Public Sector Inefficiency".
1936 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
1937 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

4.1.3 Other Sharing Incentives and Troubles with Them

4.1.3.1 Would a Citizen's Salary Be Enough to Make Sharing Work Profitable?

In short:

- *A citizen's salary (CS) can partly alleviate the game-theoretical setting that now makes it an unviable option for employees to work part-time or take time off between professions. By doing so, it can make the wages employees demand for marginal units of work more progressive – reducing the need for tax disincentives on piling work.*
- *However, current levels of productivity would likely not allow a sufficiently high CS to eliminate the need for progressive labor taxes. There is also the risk that such a high CS might have marginalizing effects.*

As the first step in making sharing work profitable was eliminating all fixed costs per employee,[1938] the question arises whether we could make it even more profitable by turning those fixed costs negative – by paying companies a fixed sum for every person they employ. In theory, this sounds like an appealing alternative to progressive income taxation, but in practice this would result in companies having lots of "ghost employees": people on their payroll that are not doing anything productive. Having someone on its payroll does not force the company to give that person any training or subject the company to much management work, which are some of the natural overhead costs that make sharing actual productive work expensive.[1939]

You could expect that, to compete over such ghost employees, companies would pay the employees almost as much as they can get free from the government – for doing nothing. If this is the likely outcome, then we could just as well pay this sum directly to every citizen as a "citizen's salary" (CS). As will be explained in "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free", we could not afford a sufficient CS with the current taxation system, but, theoretically, if the government taxed land and collected most of other monopoly rent in the economy, rising labor productivity might eventually raise these revenues high enough to yield a CS above subsistence level. Could we then eliminate transaction taxes altogether and have a similarly flexible labor market with the help of such a CS only?

As explained in "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence", the problem with the misallocation of earning opportunities is largely "game-theoretical". Even if people preferred less work in the long run, offering to work less for lower hourly pay is not a feasible alternative, as this risks one losing one's income completely and ending up long-term unemployed. Therefore, let's consider a simple, hypothetical labor market where there are ten people currently offering a kind of work and two companies buying it. The demanded amount by each company with the initial wage is five full-time equivalents (FTEs), meaning full full-time employment of the ten employees available.

Let's suppose the demanded amount for this work now drops to four FTEs for both companies.

In the current system, it is cheapest for both of the companies to fire one of their employees. If one company decided to reduce 20 % of work time from all of its employees, it would lose in price competitiveness to the other, as it would be stuck with higher overhead costs. In an unregulated market, the competition over the remaining "jobs" would cause wages in the market to drop until two of the employees decided to move to another labor market (offer another kind of work) or the lowered costs increased the demanded amount of their labor.[1940] Without alternative sources of income and any price elasticity of demand, wages would drop to subsistence level.[1941]

In a market where legal fixed costs were minimized and payroll taxes were sufficiently progressive, both companies would prefer to reduce the labor bought from all of their employees by 20 %. If one of them decided to fire one of its employees, the other would hire this one, too, and, sharing its 4 FTEs among 6 employees, it would get an even bigger reduction in labor tax costs. It is therefore

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1938 See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs".

1939 See: "4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable".

1940 ...by e.g. lower prices increasing the demanded amount of the end products or services, or encouraging other industries to adopt technologies and processes that need more of the type of work in question.

1941 See: "Graph 34: The Iron Law of Wages is a result of the fact that the supply curve of labor is a "hockey stick", because the unit of labor is a human being: no one can afford to be the one fired."

not a game-theoretically feasible alternative for either company (except by forming a cartel) to try blackmailing their employees to lower the unit wages they demand by threatening to fire the one who won't agree to the wage cut.

In a market with no labor taxes and where all the employees received a CS of, say, a quarter of their FTE salary, which was above subsistence level, none of the employees would necessarily start offering lower wages to bargain for keeping their full-time jobs. Even if they considered the CS insufficient for their living standards in the long run, they might expect the demand for their work to rise later – or they might consider acquiring an education for another kind of work. They could afford to take this risk, as there would be no risk of starvation.

However, they might be willing to offer smaller amounts of work for lower pay – especially if they enjoyed their work (in moderate amounts) or got any sense of meaning from it. The CS would make the marginal utility of income for them drop faster relative to the marginal utility of leisure,[1942] making them demand higher pay for higher amounts of work without forcing them to accept any deal they can get. In this way a citizen's dividend *could* make sharing work more profitable for employers and alleviate the "Consumer's Dilemma". But this would likely require living standards to be so high that yields from land taxation allow funding (in addition to other government expenses) an above-subsistence-level CS.

Also, if employees don't see any value in working at all, they might not be willing to offer lower amounts of work for lower pay, but instead prefer unemployment, and if they are unable to find e.g. meaningful voluntary activities, such a high CS might – just like our current social support schemes – rather induce marginalization. Returning to the initial suggestion of paying employers for hiring employees, we could of course, instead, pay employees a negative income tax – a kind of tax rebate – for their first thousands of dollars of income. This is essentially making the earning of an income a requirement to receive one's "citizen's dividend". In practice, this is like an employment subsidy paid to employers and causes an incentive *not to* eliminate unnecessary work to increase labor productivity. And there should be no reason to subsidize doing more paid work or any monetary transactions. Companies might also find ways to channel these subsidies into their own revenues and profits (e.g. through schemes that encourage their employees to spend on the employer's own products or services.)

We conclude that progressive labor taxes seem to be a much more feasible way of making sharing work profitable in the current situation, but as public monopoly revenues rise to allow a higher CS, the labor taxes and hence their progression can likely be lowered gradually, as the elimination of starvation risks together with employees' preferences for leisure may be enough to keep sharing work profitable for employers.

4.1.3.2 Other Ways of Encouraging the Sharing of Work More Evenly?

In short:

- ***Implementing work sharing incentives according to a unit (of work) other than income is likely to have adverse effects.***
- ***It is, however, encouraged that people don't get fixated on continuously progressive payroll taxes as a "final, perfect solution".***

As mentioned, this How section of the book is only meant to give initial ideas and solution suggestions for consideration and inspiration. It is dangerous to get fixated on progressive payroll taxes as the only possible solution. There might be other more efficient ways to increase people's positive freedom in how much to work.

However, as economic incentives go, it is hard to think of anything more generally and fairly applicable, than tying the incentives to the employees' total income. Such a Pigovian tax on piling up any kind of earning opportunities on fewer people should by no means distort the market or give anyone an unfair advantage. Instead, e.g. punishing companies for the hours of work that individuals do would encourage manipulating working hours reported. Even in the current situation with no such direct incentives to "lie", many industries don't report actual working hours. This includes some branches of consulting, where consultants report 40 hours of work as their official working hours every week, which is also used as the basis of billing clients – although in practice the weekly hours are closer to 55-80 and no one really follows them accurately.

Also, hourly sharing incentives might drive people in low-paying jobs into even more difficulty in making ends meet, which is hardly beneficial socially or in terms of economic development. In most cases, of course, maximizing social mobility would reduce this problem by balancing income differences,[1943] but we need to leave room for cases where a person wants to do a job in low demand, regardless of available alternatives. If I'm for example extremely passionate about Argentinian tango, I might want to

1942 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

1943 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

teach tango 50 hours a week over other, more profitable opportunities available, even though the pay would be lousy. Also self-financed entrepreneurs don't measure hours and can be considered very low-income workers before their company gets into the revenue phase. The products of sweat equity (unpaid work by entrepreneurs) can seldom be capitalized on the company's balance sheet.[1944]

However, we encourage rigorous brainstorming and investigation of other alternatives. Even though the previously made case for the negative externalities of overcentralizing procured labor and the resulting need for a Pigovian tax is rather straightforward, the suggestion of progressive payroll taxes is still one of the ugliest parts of the Root Bug hypothesis, as we have also made the case that taxing transactions (human cooperation) makes little sense otherwise.

Millions of dollars and euros are now poured into finding ways to get people to spend more – to create more work just so that there would be "enough work for everyone."[1945] The author is convinced that this objective makes little sense. Putting even a tenth of that effort into finding ways to increase the correlation between earning opportunities and people's willingness to spend and invest (need for income) would surely provide many out-of-the-box innovations to achieve this.

4.1.3.3 Other Ways of Encouraging Giving Work to Investors, Spenders and the Indebted?

In short:

- *The optimal solution is not even sharing (i.e. equal distribution) of work, but work being allocated according to people's willingness to spend and invest.*
- *However, incentivizing certain kinds of investment or excessive spending or investing on credit might have adverse effects.*

"Encouraging homeownership may well create a political constituency for capitalism. But it also distorts the capital market by persuading people to bet the house on – well, the house. People need to borrow money, of course, to start up businesses or to buy expensive assets, but it seems dangerous to lure them into staking everything on the far from risk-free property market." – Niall Ferguson, The Ascent of Money -documentary[1946]

As discussed under "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest", to have a self-stabilizing system, the optimal situation is not an even distribution of earning opportunities, but one matching people's consumption and investment preferences as closely as possible. Thus, it would be beneficial to allow consumers who are willing to spend and invest more to also earn more. Money spent as it is earned – a person living "hand-to-mouth" – is not away from anyone, as an equal amount of earning opportunities are "created" (by the spending) as are "spent" (by earning). It is of course preferable that giving up extra work would happen voluntarily and this could be promoted by ensuring that money remains an unprofitable enough form of investment compared to real assets.[1947]

However, if strong sharing incentives make an uneven distribution of work highly costly to the employer, this will pose a limit to individual upward flexibility in earning opportunities. Employees wanting to earn more would have to make big compromises on their relative salary – take a lot of the progressive wedge of payroll taxes on themselves,[1948] which will partly limit their ability to earn and spend more, hampering wanted economic growth. But could there be other ways to encourage giving more to the more needy?

An intuitively tempting solution to increasing the correlation and avoiding credit defaults[1949] would be to give employers exemptions on their payroll taxes according to how indebted or eager spenders their employees are. The challenge here is how to make sure that these incentives are not abused – and how to prevent them from having adverse incentive effects. It might be relatively easy to move money from yourself over to your retired parents or to your spouse or buy something on their behalf just to increase your ability to negotiate for a job (especially when the spouse is not working) in order to look poorer and skim the benefits to oneself as higher wages.

Also, with complex investment funds and other derivatives, it is not always easy to determine fairly how

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1944 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
1945 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
1946 3:59:05->, "The Ascent of Money: A Financial History of The World by Niall Ferguson Epsd. 1-5 (Full Documentary)", BBC Documentary, viewed 15.3.2013, http://www.youtube.com/watch?v=4Xx_5PuLIzc
1947 See: "4.2 Preventing Excessive Monetary Saving – Allowing Monetary Policy to Balance Aggregate Supply and Demand".
1948 See: "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".
1949 See: "3.1.4 Private Credit Crises, Mass Defaults and Overleverage".

much business risks (or risks of existing real assets) a person's investments are carrying. Taking a loan and investing it in government bonds is not productive in anyway, while using the debt to leverage the construction of a bigger house or starting up a business is productive.

Thus, giving an exemption for any debt that a person might have is quite ambiguous and also dangerous. It might become almost standard practice for an employer to require that an employee candidate has arranged her assets in a way that looks indebted, and tax lawyers and accountants – as with any complex tax systems with exemptions and benefits to reap – will jump at the business opportunity of extracting all possible profits from making such arrangements, which do not necessarily increase actual demand or productive real investment in any way.

If there is no efficient and unbiased way to determine the total financial position of a person or validate their expenses accurately, another option is that tax exemptions could still be given to employers for employing persons who have specially been declared "half-bankrupt". This kind of declaration would of course not be a very favorable association and would make such an announcement less lucrative to abuse. However, such incentives might still encourage irresponsible spending on credit and taking inconsiderate risks. So instead of reducing credit defaults, it might increase them.

There are already incentives in many countries that encourage buying one's own home rather than living on rent. Tax deductibility of mortgage interests is an often-mentioned example. But it is a minor incentive compared to the fact that capital income tax is charged for rents, but not for living in your own house, which is practically equivalent to renting it from yourself. This might seem intuitively like a good idea, as many people rather put their money in seemingly secure assets like real estate instead of e.g. very risky assets like stocks and as having people hold mortgages makes more monetary deposits available for others to hold. However, these incentives clearly distort the market by serving as a transfer payment from the "lessee/tenant class" to the "homeowner/landlord/lessor class" and by encouraging excessively high household debt levels, increasing systemic risks and forcing governments to sustain real estate bubbles to avoid mass credit defaults.[1950]

So, instead of creating incentives for indebting oneself excessively or for investing in specific types of assets, it makes more sense:

- to remove all incentives that currently favor e.g. homeownership over living on rent, or credit finance over equity finance for companies,
- to create a natural disincentive to hoard non-productive, risk-free credit by facilitating negative interest rates and setting a fee on the government deposit guarantee[1951] and
- to give people more choice over how much to work by implementing a continuously progressive Pigovian tax on piling work on fewer people.[1952]

4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions

In short:

- *Even though companies should be encouraged not to lay off workers, but instead to reduce labor from multiple employees whenever possible, sometimes layoffs are inevitable: E.g. complete functions might be eliminated or a recruited person simply does not suit the company's culture.*
- *Punishing companies for layoffs, i.e. forcing companies to continue providing employment to (i.e. buying labor from) people they've once hired, always increases recruiting risks and hence fixed costs per employee (as recruiting risks) and is likely to make sharing work less profitable.*

When choosing between whether to reduce labor by laying off employees or reducing work hours (or other units of work) from individual employees, an even partly rational employer compares the expected costs of each option. The costs of firing include "brain drain" (loss of talent to competitors) the potential costs of re-recruiting and any required compensation and/or penalties for the layoffs (Crimmann et al 2011, p. 8). The costs of sharing work were discussed in more detail under "4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable".

Crimmann et al (2011, p. 7) note that, when the expected reduction in demand is temporary, companies will be less eager to fire "employees with specific, establishment-related human capital" in order to avoid the loss of human capital and re-recruiting costs. Intuitively, it might seem

1950 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

1951 See: "4.2.2 Setting a Fee on the Government Deposit".

1952 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

sensible to make sharing the most viable option also for "employees with general, unspecified human capital" by maintaining the legally set penalties and compensations for layoffs. One might suggest that these penalties should also apply to reducing the labor purchased from some people significantly more than from others, in order to prevent "layoff evasion" by reducing some people's work close to zero.

The trouble with this logic is that, from the perspective of an employer, all potential (life cycle) costs of employment relationships are practically costs of *commencing* a new employment relationship: In other words, all liabilities towards employees imposed on employers increase the *costs of hiring*.

And although labor could be reduced more evenly in most cases, there are situations where it isn't possible or viable regardless of the incentives. Such a situation might include one where the company exits a whole business or outsources an operation that utilizes types of skills that are not required elsewhere in the company. In these situations, the work sharing incentives can provide flexibility by increasing the laid off employees' chances of bargaining for work in other companies. Instead, any penalties for layoffs always increase the risks of recruiting new employees and raise the threshold to commence new employment relationship.

> "Restrictions on firing may discourage firms, however, to hire new workers in good times in the fear that they may be unable to fire them in bad times. Thus, during a boom, instead of hiring new workers, firms may prefer to ask their existing workers to work overtime. Firing restrictions may also discourage foreign direct investment. If present, both of these effects raise the NAIRU." (Hatzinikolaou & Kammas 2010, p. 442-443)

We have to remember, also, that recruiting risks are not limited to variance in total future demand. Not even the most diligent selection process can absolutely assess the suitability of a person for a position or his fit into the company culture. Mistakes occur, and for example in the case of expatriates, failures of recruits in their tasks due to misfit are common and always cause immense costs – sometimes irrecoverable losses of opportunities – to the employer (e.g. Anderson 2005), even without any legally enforced penalties.

Current labor legislation, especially in the Nordic welfare states, attempts to create security by only allowing layoffs where a clear breach or neglect of responsibilities can be shown. However, it is beneficial for no one that a person not suiting a company's culture is kept in the company by external force or obligation. Not fitting a specific company's culture does not make a person "a bad employee" in general. *Cultural fit* is one of the three main factors for which experienced recruiters look in candidates.[1953]

Companies are competing organizational forms, and culture is a significant factor in the functioning and efficiency of any organization.[1954] Two different companies with very different cultures utilizing different kinds of skills and innovative capacities can both manage to compete even in the same industry – if both have good internal fit. Bad cultural fit can make a person's net productivity negative in one company, even if the same person can be extremely productive in another. Tony Hsieh's "Delivering Happiness" (2010)[1955] presents good case examples of the importance of this cultural fit and how Zappos turned down many extremely skillful candidates with excellent credentials simply because their personalities might not have been *coherent* with the culture that had evolved into the company – the culture that was its primary source of innovativeness, exceptional customer service, workplace satisfaction and overall competitive advantage.

Forcing companies to keep employees that they've once recruited:

- encourages companies to pile up work on existing, "validated", employees instead of hiring new ones (as it increases the costs of possible recruitment errors and any labor reduction needs);
- increases direct recruiting costs by enforcing excessive diligence in selection instead of e.g. starting by trying out shorter gigs;
- risks poisoning coherent company cultures that drive productivity and work satisfaction;
- deteriorates the forcedly retained employee's self-esteem by keeping him in a place where he doesn't full fit in; and
- reduces the whole economic system's ability to find the most productive uses for all its resources – especially the unique skills of individual people.

Instead, encouraging companies to share each type of work with all available *fitting* employees according to the employees' need for income with continuous sharing incentives does none of the above.

1953 Bradt, George, "Top Executive Recruiters Agree There Are Only Three True Job Interview Questions", Forbes, 27th Apr 2011, cited 9.4.2014, http://www.forbes.com/sites/georgebradt/2011/04/27/top-executive-recruiters-agree-there-are-only-three-key-job-interview-questions/

1954 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

1955 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability

In short:

- *Limited opportunities to acquire an education remain the biggest obstacle to social mobility and persistence of unjust income differences between professions. There are justifications for publicly subsidizing education to avoid a plutocratic class society.*
- *However, with today's internet technology, de-academizing higher education would have an even stronger effect, cutting education costs, getting people faster into the labor market, keeping education updated, increasing innovative potential as well as decreasing professional and intellectual segregation.*
- *Basic education systems also require significant rethinking, especially in terms of their (high-level) incentives, which now make people afraid of failing and discourage questioning, creative ambitions and trying new things as well as, worst of all, teach people to resent different people and their successes instead of teaching them to cooperate and appreciate human versatility.*

> "Societies that have a strong commitment to equal opportunity for all of their children – and that are prepared to invest public funds on their behalf – end up with much better outcomes." – Jeffrey Sachs

> "The higher education system still keeps a glass ceiling over the heads of the poorest of the poor who can't afford a college degree to open the door to professional work. However, free K-12 public schools, equal access to libraries and all the information on the internet has almost completely bridged the intellectual gap between the rich and the poor." – Travis Haan (2013, p. 14)[1956]

> "We don't seem to be making learning how to be happy and healthy a priority in our schools. It's separate from schools. And for some kids it doesn't exist at all. But what if we didn't make it separate? What if we based education on the science *and* practice of being happy and healthy? Because, that's what it is: a practice." … "Healthy, happy, creativity and the hacker mindset are all a large part of my education. I call it hackschooling." – Logan LaPlante[1957]

> "I left college two months ago because it rewards conformity rather than independence, competition rather than collaboration, regurgitation rather than learning and theory rather than application. Our creativity, innovation and curiosity are schooled out of us." – Dale Stephens[1958]

> "I have never let my schooling interfere with my education." – Mark Twain

As discussed in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land" and "4.3 Eliminating Private Monopolies and (Other) Privileges", some industries are of such a monopolistic nature that free competition fails to maximize value for customers (and employees) and therefore it makes sense that these industries are publicly owned. This does not mean that these services should be *free* public services, but, on the contrary that the fees for these services could be a significant source of government revenue.

With education, the situation is the exact opposite: There is little justification for education being a government monopoly industry – unless we want to standardize people's ways of thinking and opinions in an attempt

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1956 Haan, Travis, 2013 "The Reality of the United States military", cited 18.6.2013, http://www.scribd.com/fullscreen/124011797

1957 2:20-> & 5:52->, LaPlante, Logan, 2013, "Hackschooling makes me happy", TEDx Talk, TEDx University of Nevada, viewed 25.1.2014, http://www.youtube.com/watch?v=h11u3vtcpaY

1958 Stephens, Dale, "College is a waste of time", CNN, 3rd Jun 2011, http://edition.cnn.com/2011/OPINION/06/03/stephens.college/index.html

to avoid disagreements and conflicts (as might be the agenda of less liberal communist ideologies and as e.g. Jean-Jacques Rousseau suggested[1959]). The fast progress of information technology and fresh research on the human psyche and learning processes have opened up room for many new innovations in how children (and adults) can be taught to (or encouraged to learn to) (1) *solve*, (2) *create* and (3) *communicate* and help them understand (a) themselves, (b) others, (c) mankind and (d) the universe through versatile "lenses", i.e. frameworks and languages. (This framework of the objectives of education could the subject of another book.)

The public sector with its political correctness and general change resistance without any threat of competition has scarce a chance of keeping pace with all the possibilities and of adjusting to all the versatile learning preference types of children and students. Additionally, because education – the frameworks and values it feeds people – strongly affects people's thinking and thereby also their political opinions, there is a big moral hazard in giving significant power over what is taught into the hands of democratically elected governments.[1960] This clearly grants existing institutions and political dogmas further power to maintain themselves.[1961]

> "But too much state control in educational matters is a fatal danger to freedom, since it must lead to indoctrination." (Popper 1962, p. 116)

However, there are at least two to three good justifications for education being *subsidized* by the government:

- It prevents the development of a plutocracy or class society, where people's opportunities in life are strongly limited by their parents' wealth.[1962]
- The slight "overeducation" it encourages (people having capabilities for more than one kind of work) can increase short-term structural flexibility in the labor market, making the system more robust (or even antifragile[1963]) against supply and demand shocks or technological paradigm shifts. As more individuals would "preemptively" acquire more versatile skills, there would be less waiting for people to re-educate themselves, which would also reduce friction unemployment. As in company strategies and production processes, in the labor market, there is often a tradeoff between "lean" and "agile".[1964] Overeducation increases agility on the expense of "leanness" (Unfortunately, our current higher education systems, with implicit monopoly granted to academia, serve more to increase academic segregation and excessive fixation to "professional identities."[1965])
- The versatility brought by the overeducation together with reduced pressure to get a steady revenue stream as soon as possible facilitates more cross-disciplinary creativity and lowers the threshold to undertake risky entrepreneurial ventures, increasing the economy's innovative capacity. New things emerge when ideas are combined in new ways and when colliding worldviews and frameworks cause creative chaos. It is hard to predict beforehand where the next revolutionary innovations will come from, and thus such possibilities are not sufficiently taken into account when an individual decides over commencing additional cross-disciplinary studies. The future will need more "cross-disciplinary cognitive frames", "combinative capabilities", "synthesizing minds" and generalists who see the big picture. (Sitra 2013, p. 19)[1966]

The exact amount of education subsidies – percentage of education (e.g. tuition fees) subsidized, total subsidies, whether living expenses are funded in addition to tuition or not etc. – remain a subject of debate on which the political left and right might have strong opposing opinions. The only clear condition the Root Bug hypothesis sets (at this point) is that the subsidies may not be an excuse for limiting the number of different education opportunities, as such limitations reverse the effects of the wage mechanism that should balance supply and demand of different kinds of work in a market economy.[1967] If opening up all degrees to anyone capable of learning the required skills would cause massive overeducation – far exceeding possible needs for flexibility in the labor market – then it is much more fair to cut the education subsidies before limiting specific education opportunities.

Another thing that could be questioned altogether is the necessity of academic *degrees* in general. The institution

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1959 "Good social institutions are those that best know how to denature man, to take his absolute existence from him in order to give him a relative one and transport the I into the common unity, with the result that each individual believes himself no longer one but a part of the unity and no longer feels except within the whole." (Rousseau 1762, p. 40)

1960 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

1961 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

1962 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1963 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

1964 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

1965 See: "Sidenote Box 4148: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent".

1966 'Several researchers have argued that the more complex and uncertain living environments demand new types of knowledge and skills. In particular, the need for broad individual knowledge base, cross-disciplinary cognitive frames and "combinative capabilities" is growing. There is an increasing demand for "generalists" and "synthesising minds".' (Sitra 2013, p. 19)

1967 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

academic education emerged in the Middle Ages with the printing press just being invented and with no one even dreaming of a technology allowing virtually costless dissemination of information across the globe in all kinds of formats, like... like the internet! And it was not designed to educate skilled and productive workers for private sector businesses, but to pass on knowledge between scholars – to train future researchers, specialized into academic niches. Through curious turns of events, academic degrees became a symbol of expertise gaining appreciation in the labor market and eventually became a "hygiene factor", a minimum requirement, for being allowed to participate in some labor markets at all.

Degrees, examinations and courses are essentially the bureaucracy of education. And as with any organization, process or activity, bureaucracy and other external controls and "instrumental motives" tend to worsen performance and decrease people's internal motivation for doing things.[1968] (Deci & Ryan 2008; Pink 2009) Dopamine – the reward hormone that is released when we have fun – significantly stimulates learning. So much that for example Martha Burns refers to it as

> "the 'save button' in the brain. When dopamine is present during an event or experience, we remember it; when it is absent, nothing seems to stick."[1969]

How many people do you know who tend to exclaim in an enthusiastic fashion things like: "Yeah, I got four exams this week!" or "Wow! Finally I get to start my Bachelor's thesis" without a sarcastic tone? In many cases, people would learn things much better by studying things by themselves and with friends using resources available on the internet (and much more material could be made available[1970]), while simultaneously undertaking relevant projects of their own interests or applying the newly acquired skills in productive work, which further enforces learning and creativity. And this is essentially how e.g. top programmers and designers already learn what they learn. Many lectures involve hardly any interaction at all, meaning that a better quality teaching could be delivered by sharing video material by 10 top lecturers globally than by having 1000 unmotivated lecturers give similar ones with hastily compiled keynotes in person. See for example what Khan Academy is doing to the availability of education.[1971] Anya Kamenetz's book "DIY U" (2010) also presents many new interesting examples of how education is breaking loose from its academic prison.[1972]

Professors, mostly motivated by their research (or, rather, progress in their academic careers and their status in the hierarchy of academia[1973]) seldom have real passion for executing and developing their teaching duties.[1974] It makes little sense to have the same organizations:

1. in charge of debating over models and concepts used in a field and conducting the basic scientific research for testing these models
2. in charge of higher education
3. in charge of assessing, auditing and certifying people's skills.

This is a case of unnecessary and inefficient "vertical integration".[1975] Of course it is very useful and necessary to use academic frameworks and research findings in higher education, but having the same institution and people develop them and help others apply them is often suboptimal. Most professors very seldom get to lecture about the things they are currently researching. Giving academia a monopoly on higher education on the grounds that "academia produces the most recent scientific knowledge" is like granting mills a monopoly in bakery goods on the grounds that mills are the only facilities that produce flour.

Separating these three functions would allow much more innovation in how people can develop their skills and, most importantly, break a major structure maintaining our artificial class society.

Currently, people are strongly categorized on the labor market based on the pre-selection of the institution they've attended. And although the actual skills granted by degrees from different universities are difficult to compare, grades received within the same universities seem to be taken into consideration even less by most employers. If we give up the irrational value we attribute to academic degrees and rather allow independent and

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1968 Wrzesniewski, Amy & Scwartz, Barry, "The Secret of Effective Motivation", New York Times – Sunday Review, 4th Jul 2014, cited 10.12.2014, http://www.nytimes.com/2014/07/06/opinion/sunday/the-secret-of-effective-motivation.html

1969 Burns, Martha, "Dopamine and Learning: What The Brain's Reward Center Can Teach Educators", 18th Sep 2012, cited 24.9.2013, http://www.scilearn.com/blog/dopamine-learning-brains-reward-center-teach-educators.php

1970 Another very interestingly protectionist institution fighting for its survival as a possibly outdated medium are academic journals. See: "5.2.1 The Personal Nature and Incentive Traps of Academia".

1971 www.khanacademy.org

1972 "Anya Kamenetz on Alternative Education", Chelsea Green Publishing, viewed 17.6.2013, http://www.youtube.com/watch?v=nvr_L_jMCI4

1973 See: "5.2.1 The Personal Nature and Incentive Traps of Academia".

1974 Slavoj Zizek is one who says this out loud.
"Talks are OK, but I hate giving classes because [of] all the baggage you get by it, which means office hours, grading the papers..." ... "I'm proud to say I did teach a few semesters here and all the grading was pure bluff." ... "You know, students, they're like other people: the majority are boring idiots." ... "I like universities without students."
– 7:45->, 8:29-> & 9:08->, Zizek, Slavoj, 2014, "Why I Hate Snow and Office Hours", viewed 17.5.2014, https://www.youtube.com/watch?v=s_ICODj-4o0

1975 "Vertical Integration", entry, Investopedia, cited 22.7.2013, http://www.investopedia.com/terms/v/verticalintegration.asp

innovative auditing parties to assess skills and suitability for positions, let people show their talent through e.g. open design and case competitions as well as give more value to verified references that can be collected in internet resources (like LinkedIn, Mozilla Open Badges,[1976][1977] etc.), anyone could acquire valuable skills in the most efficient way suitable to them, which would both increase the speed of re-education and reduce financial constraints to social mobility between professions.[1978]

This does not necessarily mean that all kinds of tuition or structured and guided learning programs ("courses" or "degrees") are useless. But there is surely significant potential for increasing the effectiveness and "productivity" of our higher education systems. This would also cut the amount of government subsidies needed to give people equal opportunities to pursue any career they want and switch lines of work flexibly.

Jon Bischke, commenting on an article interviewing Peter Thiel,[1979] puts it as follows:

> "The challenge higher education is going to face is that the signaling mechanism that higher education provide (i.e. you were good enough to get into Harvard so you're good enough to work for Goldman Sachs) is going to become de-coupled from the institution's ability to impart knowledge on people. A few decades ago, most of what you needed to learn to be productive in society was best learned at a university. Today, most of the what you need to learn to be productive in society is best learned on your own, online, for free. There are exceptions but 99% of human knowledge is no longer locked up within a university.
>
> Contrast that with the cost of higher education. To go to UCLA as an out-of-state student it now cost $50K/year (http://www.admissions.ucla.edu/prospect/budget.htm). And that's a *public* school. And it's rising 8% a year. So the cost of learning has plummeted to almost nothing and yet 18-22 year old kids are taking out six figure loans to "learn". This makes no sense and feels very unsustainable.
>
> And here's what I think will change the game: alternative signaling and credentialing mechanisms."

Or as Dale Stephens says:

> "A major function of college is to signal to potential employers that one is qualified to work. The Internet is replacing this signaling function. Employers are recruiting on LinkedIn, Facebook, StackOverflow and Behance. People are hiring on Twitter, selling their skills on Google, and creating personal portfolios to showcase their talent. Because we can document our accomplishments, and have them socially validated with tools such as LinkedIn Recommendations, we can turn experiences into opportunity."[1980]

Many employers (like top management consulting firms) don't care much in the end about *what* degree you have as long as you have one completed with good grades in a moderate amount of time as a demonstration of your drive and ability to get things finished diligently. For example Google is recognizing the uselessness of academic degrees altogether and reducing their importance in hiring.[1981]

Technical knowhow becomes outdated very quickly in today's turbulent world and one essentially always learns the important things at work. Our current degree system is practically mostly a 4-7 year "initiation rite" (or "probation period") before one has the right to enter the labor market – a rite mostly upheld by the academic institution trying to maintain its authority, and by the fact that controlling these "education" positions politically allows labor unions (and other interest groups) to restrict labor supply and therefore competition and downward wage pressures in their field.[1982]

And what about basic education? According to Nassim Taleb, "[t]he entire concept [of education] is grounded in interventionism." As the word comes with such a load and many non-exciting emotional associations, maybe we should decide to ditch "education" and "school" altogether (Richardson 2012) and, instead, create (social) environments and games that inspire and facilitate discovery, questioning and creation – without the historical baggage of assumptions embedded in these institutions.

If we want children to grow up believing in their own abilities to learn things and be productive as well as appreciate people with different abilities and interests in order to work effectively together with them, also the incentives in our basic "education" (if we want to keep the word) need to be tuned to support these kinds of attitudes. Currently, our education systems with their grades

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1976 "Mozilla Launches Open Badges Project", The Mozilla Blog, cited 21.7.2013, http://blog.mozilla.org/blog/2011/09/15/openbadges/

1977 Mozilla Open Badges, cited 21.7.2013, http://openbadges.org/

1978 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?")and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1979 Lacy, Sarah, "Peter Thiel: We're in a Bubble and It's Not the Internet. It's Higher Education", Tech Crunch, 10th Apr 2011, cited 1.9.2013, http://techcrunch.com/2011/04/10/peter-thiel-were-in-a-bubble-and-its-not-the-internet-its-higher-education/

1980 Stephens, Dale, "College is a waste of time", CNN, 3rd Jun 2011, http://edition.cnn.com/2011/OPINION/06/03/stephens.college/index.html

1981 Nisen, Max, "Google Has Started Hiring More People Who Didn't Go To College", Business Insider, 20th Jun 2013, cited 10.6.2014, http://www.businessinsider.com/google-hiring-non-graduates-2013-6

1982 See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'" and "Sidenote Box 414B: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent".

(classes progressing annually) and grading systems (grade points and GPAs) are mainly teaching children that everything can be put on one axis: that there are good things and bad things, "good students" (good people) and "bad students" (bad people). Understandably, only the "top students" remain even remotely motivated to play this game and the rest tell it to go screw itself. When a game or value system is a threat to one's self-esteem, that value system itself becomes an enemy. It becomes trendy to e.g. be "bad at math" (or, generally, "bad in school" or "not a geek") and everyone who is different is a threat to a child's personal "worth": If those others' qualities would be rated higher, that would mean that one's own qualities would be relatively worth less. We have a system that breeds intolerance, hostile groupishness and collective narcissism. In addition, going to school is a drag and a chore that keeps people away from interesting things.

Yet youngsters love developing the skills of fictional characters and exploring made-up worlds in role playing computer games. And before school age, we are all natural explorers and experimenters. Where does this enthusiasm towards personal development go? Why couldn't going to school be as awesome and addictive as playing World of Warcraft (WoW)? Playing WoW remains motivating regardless of how good one is at it and how far one progresses. Every player can progress at her own pace and specialize in certain skills. Cooperating with others with different skills gives a clear advantage – as it does in real life as well. Being able to earn badges, levels, artifacts and yet more points without a maximum and "unlocking" new development opportunities can be made extremely addictive. What if children were "high and hooked on learning"?

Also, people love to create things, to say they've made them, see the effects of their work and feel like they're contributing to something useful and important. Giving children challenges and chances to make suggestions for improving the surrounding community can both be inspiring and motivating and yield actually useful results. (Pilloton 2012) There is a lot of win-win potential in some forms of "child labor" (if you'll excuse the emotivist sarcasm[1983]).

Combine such game mechanics and co-crafting with elements from the Montessori model (where children are encouraged to teach each other and to discover things together) with other modern learning tools available, lessons from startup innovators on how to create a dynamically inspiring and innovative environment and we'd have...

1983 See: "5.1.1 Our Emotional Attachment to Words".

But this is just to raise some initial thoughts. These educational paradigm shifts are better left for another book.

"I think inspiration, innovation comes from having two or more specialties and applying the framework of one specialty to the framework of another." ... "We have people who are expert at dots, but we also need, as individuals and collectives, to be encouraging the connecting of those dots and the mashing of them together – that is where inspiration comes from. Leonardo da Vinci was a scientist, he was an artist, he was an inventor, and that's what made him special."... "Steve [Jobs] went to Reed College, he dropped out like all great American entrepreneurs after one term. Think of that: Bill Gates, Michael Dell, Steve Jobs – all dropped out. But he didn't know where to go. So, he hung around Reed College. He had nothing to do, so he decided to take a course in calligraphy – and he learned the beauty of typeface, of serif and sans serif type." – Thomas Friedman[1984]

"You know, students, they're like other people: the majority are boring idiots." ... "I like universities without students." – Slavoj Žižek[1985]

"We've mythologized the histories of entrepreneurs such as Gates or Steve Jobs or Michael Dell, constantly retelling the stories of those go-getters starting new businesses in their dorm rooms or garages in their spare time. Yet nobody ever asks the obvious questions: Why were they doing those things in their spare time? Why isn't the education system structured so that this kind of activity is the very goal?" – Richard Florida, The Great Reset (2010 p. 183)

"And what we've done in human society through exchange and specialization is we've created the ability to do things that we don't

1984 34:39->, Friedman, Thomas, "The World Is Flat 3.0", MIT Video, lecture at MIT, 28th Nov 2013, cited 8.1.2014, http://video.mit.edu/watch/the-world-is-flat-30-9321/

1985 8:29-> & 9:08->, Žižek, Slavoj, 2014, "Why I Hate Snow and Office Hours", viewed 17.5.2014, https://www.youtube.com/watch?v=s_lC0D-4o0

even understand." ... "And by the way that's one of the main reasons that I am not interested in the debate about IQ: Whether some groups have higher IQ than other groups. It's completely irrelevant. What's relevant to a society is how well people are communicating their ideas and how well they are cooperating – not how clever the individuals are." – Matt Ridley, When Ideas Have Sex[1986]

"I was a Montessori kid for the first few years of my education, and what that education taught me is that the world is an interesting place and my job is to go explore it. The school stopped in third grade so then I entered the public school system and it felt like I had been sent to the Gulag. With the benefit of hindsight I now know the job was to prepare me for life as a clerk or a laborer, but at the time, it felt like the job was to bore me into some kind of submission to what was going around me. We have to do better than this – we cannot keep turning out 'Bills'." – Andrew McAfee[1987]

"A certain amount of state control in education, for instance, is necessary, if the young are to be protected from a neglect which would make them unable to defend their freedom, and the state should see that all educational facilities are available to everybody. But too much state control in educational matters is a fatal danger to freedom, since it must lead to indoctrination." – Karl Popper, "The Open Society and Its Enemies" (Chapter 6)

"[A]s Woody Allen says, you know, the problem is not only that there is not enough higher education, but that it's not good enough quality. We're facing a situation right now, where young people, when they enter college, by the time they leave 4 to 6 years later, the jobs that are available to them may not have existed when they entered. And so, the whole conservative model of education of transmitting, learning from one generation to the next, waiting for it to be codified in expertise and distribution requirements, is kind of disruptive right now because knowledge is changing so fast and young people really feel that ... the gap between what is going on in the classroom and in their daily lives is getting bigger and bigger. So that is why they're spending their time in these traditional lectures actually just talking to their friend. So it seems to me that we've reached a situation where we have two choices. One is to change higher education: change the way we deliver, change the way we define it and the other one is to resign ourselves to never having enough." – Anya Kamenetz[1988]

"A true bubble is when something is overvalued and intensely believed. Education may be the only thing people still believe in in the United States. To question education is really dangerous. It is the absolute taboo. It's like telling the world there's no Santa Claus." ... "If Harvard were really the best education, if it makes that much of a difference, why not franchise it so more people can attend? Why not create 100 Harvard affiliates? It's something about the scarcity and the status. In education your value depends on other people failing. Whenever Darwinism is invoked it's usually a justification for doing something mean. It's a way to ignore that people are falling through the cracks, because you pretend that if they could just go to Harvard, they'd be fine. Maybe that's not true." ... "Parents see kids moving back home after college and they're thinking, 'Something is not working. This was not part of the deal.'" – Peter Thiel[1989]

1986 14:24-> & 14:49->, Ridley, Matt, 2010, "When Ideas Have Sex", TED Talk, viewed 12.12.2012, http://www.ted.com/talks/matt_ridley_when_ideas_have_sex.html

1987 11:13->, McAfee, Andrew, 2013, "Andrew McAfee: What will future jobs look like?" TED Talk, viewed 17.6.2013, http://www.ted.com/talks/andrew_mcafee_what_will_future_jobs_look_like.html

1988 5:15->, Kamenetz, Anya, 2010, "DIY U", TEDx Talk, TEDxAtlanta, viewed 18.6.2013, http://www.youtube.com/watch?v=i6MLLkmXee0

1989 Lacy, Sarah, "Peter Thiel: We're in a Bubble and It's Not the Internet. It's Higher Education", Tech Crunch, 10th Apr 2011, cited 1.9.2013, http://techcrunch.com/2011/04/10/peter-thiel-were-in-a-bubble-and-its-not-the-internet-its-higher-education/

"I was discussing this [placebo effect] and I actually went to the Marginal Revolution blog by Tyler Cowen … and someone's actually suggesting you could take this concept further and actually introduce placebo education. The point is that education doesn't actually work by teaching you things. It actually works by giving you the impression that you've had a very good education, which gives you an insane sense of unwarranted self-confidence, which then makes you very, very successful in later life." – Rory Sutherland, Life lessons from an ad man[1990]

"It's actually kind of funny. If you think like, 'what is education?' You're basically downloading data and algorithms into your brain. And it's actually amazingly bad in conventional education – because it shouldn't be like this huge chore. So you [Khan Academy] are making it way better." … "The more you can gamify the process of learning the better." – Elon Musk[1991]

"In music, one doesn't make the end of the composition the point of the composition. If that were so, the best conductors would be those who played fastest." … "But we don't see that as something brought by our education into or every day conduct. We've got a system of schooling that gives a completely different impression. It's all grading. And what we do is we put the child into the corridor of this grade system with a kind of 'come on kitty kitty kitty'" … "And, come on, first grade leads to second grade and so on and then you get out of grade school, you go to high school and its, revving up the thing is coming." … "[A]nd when you're through with graduate school you go out to join the world." … "And all the time the thing is coming. It's coming! It's coming! That great thing – the success you are working for. Then when you wake up one day around forty years old, you say 'My God I have arrived! I'm there!' And you don't feel very different from what you've always felt. And there's a slight let down because you feel there is a hoax. … "But we missed the point the whole way along: it was a musical piece and you were supposed to sing or dance while the music was being played." – Alan Watts[1992]

1990 2:44->, Sutherland, Rory, 2009, "Life lessons from an ad man", TED Talk, viewed 22.1.2014, http://www.ted.com/talks/rory_sutherland_life_lessons_from_an_ad_man.html

1991 35:47->, Musk, Elon, "A Conversation with Elon Musk", viewed 27.7.2014, https://www.youtube.com/watch?v=SE6GF1Y5WHE

1992 "Music and Life – Alan Watts", A Furry Carlos Production from the Recordings of Alan Watts, viewed 27.8.2013, http://www.youtube.com/watch?v=ERbvKrH-GC4#t=54

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Sidenote Box 414B: Your 11 Lives: The Shackles of 'Professional Identity' and the Teleological Fallacy in 'Callingism' and the Myth of Talent

"Empty your mind, be formless, shapeless – like water. Now you put water into a cup, it becomes the cup, you put water into a bottle, it becomes the bottle, you put it in a teapot, it becomes the teapot. Now water can flow or it can crash. Be water, my friend." – Bruce Lee

"People believe that something that only does one thing is better at that thing than something that does that thing and something else. It's an innate thing called goal dilution – Ayelet Fishbach has written a paper about this." – Rory Sutherland, Perspective is everything[1993] (Ref: Fishbach, Zhang & Kruglanski, 2007)

"Then also another thing children do: calling each other names. They get very, very hit up because somebody says to Johnny: 'You're a sissy'." … "The whole education of a child is really telling him who he is. All the teachers, all the adults, all the other children are constantly telling each other who they are – and at last we believe it. And so you come not to know who you are at all! You come to believe that you are what everybody tells you you are." – Alan Watts[1994]

When talking about raising the retirement age (or considering the possibility that the whole retirement institution might be outdated[1995]), one often raises the issue of workers doing more physically demanding types of work (that still haven't been mechanized and automated) that easily wear people out before their 60s. This might include firefighting, construction work and customized welding in e.g. shipbuilding. Similarly, when discussing a more flexible labor market,[1996] it is easy to bring up employees in very specialized professions with high variance in demand (again, shipbuilding, mining equipment and other strongly cyclical production goods industries as examples).

These arguments are strongly supported by the idea that "you are your profession" – or rather, "your profession is your identity": If you decide to be a plumber, you are a plumber for the rest of your life. The labor union institution has further entrenched this line of thinking – especially in its concept of "solidarity". Abandoning your profession might be perceived as disloyal treachery, just like refusing to join in on a strike or other form of collective blackmail.[1997]

Another institution enforcing this kind of strict categorization of people is the academic institution with its degrees and clearly separated scientific disciplines.[1998] If you have a degree in philosophy, you *are* a philosopher – if you have one in electrical engineering you *are* an electrical engineer.

In a dynamic world, where demand (people's consumption preferences) and production technologies are subject to free choice and competition, both the system's functionality and maintaining individuals' freedom and security require stepping outside this artificial mental box.

1993: 9:55->, Sutherland, Rory, 2011, "Perspective is everything", TED Talk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perspective_is_everything.html

1994: 7:50->, "Alan Watts on Emptiness", viewed 2.6.2014, https://www.youtube.com/watch?v=joasij3d-F0

1995: See "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".

1996: See "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

1997: See "3.2.3 Unionization and Strikes".

1998: The separatist and protectionist attitudes of different fields of science and their impact on the productivity and relevance of research discussed further in "5.2.1 The Personal Nature and Incentive Traps of Academia".

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First of all, although people need roles and positions to feel like a meaningful part of something, few people naturally want to dedicate themselves to one role for the rest of their lives. Most youngsters struggle to decide what they want to be "when they grow up" and try to keep their cards open as long as possible for the fear of making a bad choice – committing to something that ends up not suiting them.[1999] If we increased mobility so that career choices were not as final and categorizing as they are now, such fears and also the fears of the stressfulness of work life[2000] would be alleviated.

Though the blind respect for academic degree might be slowly waning with their inflation and the attitudes of young professionals strongly diverge from traditional unionist values, there is another, slightly dangerous meme lifting its head.[2001] We could refer to this as "callingism": the idea that every person should find their "calling". Now, there is nothing wrong with the idea that people should aim to find roles and tasks where they can leverage their best talents and where they can have a maximal sense of autonomy, mastery and purpose.[2002] But the problematic idea that (at least implicitly) comes with the concept of a "calling" is the idea that a person inherently only has *one* calling – and the difficult task is simply to find that one calling. Using "callings" in plural somehow dilutes the magic of it.

This is of course a beautiful and comforting idea because after one has "found one's calling", there is no need to question or doubt it anymore, which gives a sense of certainty. This is similar to the value provided by the idea of a monotheistic omnipotent God: the certainty that one is valuable and has an important role in some predefined plan. And the etymology of the word "calling" (e.g. the Lutheran idea of vocation as a calling from God[2003]) implies being called by some outside force although nowadays it is often linked to intrinsic motivation. Also Max Weber, in his work "The Protestant Ethic and the Spirit of Capitalism" (Weber 1930), emphasized the religious origin of the concept of a calling (a "life-task"):

> "Now it is unmistakable that even in the German word *Beruf*, and perhaps still more clearly in the English *calling*, a religious conception, that of a task set by God, is at least suggested." ... "And if we trace the history of the word through the civilized languages, it appears that neither the predominantly Catholic peoples nor those of classical antiquity have possessed any expression of similar connotation for what we know as a calling (in the sense of a life-task, a definite field in which to work), while one has existed for all predominantly Protestant peoples. It may be further shown that this is not due to any ethnical peculiarity of the languages concerned." (Weber 1930, p. 39, *italics* in original)

The idea of being born for a preset task is also part of the "teleological fallacy", which e.g. Nassim Taleb identifies in Western philosophy: that people like to think that they've always known exactly where they're going.[2004] (Taleb 2012, p. 170) The dictionary definitions of "calling" include both the idea of spending one's "*life* doing a *certain* kind of work" and a "*conviction of divine influence*".[2005]

If a person does not feel fulfilled in what she is currently doing, she certainly should be looking for meaning and motivation in other things. But it is not wise to let oneself be locked into the blind faith that whatever one first manages to convince oneself one wants to do would be the only thing – or even the best thing – from which one can possibly derive meaning and fulfillment. "Be water", as Bruce Lee said it.

1999 Khartanovich, Margarita, "Are you afraid to graduate?" Ylkkäri, 3/2013, cited 5.7.2013, http://www.ylkkari.fi/content/are-you-afraid-graduate

2000 See: "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life".

2001 Nalbantoglu, Minna, "Vain unelmatyö kelpaa suomalaisnuorille", Helsingin Sanomat, 31st Jan 2014, cited 12.4.2014, http://www.hs.fi/talous/a1391063268411

2002 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

2003 Obenberger, Glenn, "Luther: Vocation as God's Calling", Evangelical Lutheran Synod, cited 12.4.2014, http://www.evangelicallutheran-synod.org/Lutheran_Sentinel/4263/

2004 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2005 "a strong desire to spend your life doing a certain kind of work (such as religious work)" ... "a strong inner impulse toward a particular course of action especially when accompanied by conviction of divine influence" – "Calling", definition Merriam-Webster, cited 12.4.2014, http://www.merriam-webster.com/dictionary/calling

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For wages and (other) prices to be able to balance supply and demand, the economic incentives (e.g. the wages available for different professions) have to be able to have at least a "tie-breaker" role in affecting what people decide to do with their time and learning capacity. Otherwise there is no *price elasticity of supply.*[2006] The idea that everyone doing what they first get their mind on would lead to an efficient and working economy is precisely the Communist utopia, which does not work very fairly or efficiently in practice.[2007] When the demand for a kind of thing drops, those doing it have to be able to consider "other callings". As Aristotle put it: "Where your talents and the needs of the world cross lies your calling." And as "the needs of the world" can change, people's callings should be various and moldable as well.

We are masters at justifying things to ourselves. But unfortunately this justification tendency often works more against us (our own well-being) than for us: It (and the faith, hope and love that come with it) is more often focused stubbornly on justifying previous choices and actions than new directions – and that is why it rather works for the survival instinct of the institutions of which we've become servants by tying our identities and self-esteems to them.[2008]

A popular myth enforcing this idea of predetermined, natural roles is "the myth of talent": that virtuosos are *born* – when, in reality, they are almost always *made*. (Ericsson et al 2007) And even more importantly, becoming an expert at something does not doom one for the rest of one's life. According to one estimate, it takes 7 years for a person to acquire a complex skill or to become a top specialist in something. Dividing another estimate of 10 000 hours of exercise into these years, this would mean an average of 4 hours a day, making it possible to learn the skill part-time. Assuming an 88-year lifespan, starting from 11 years of age, a person can become a top-level expert in 11 different things during her lifetime – neglecting how much easier it is to become the best at a rare combination of individually chosen skills or areas where previously acquired skills can be leveraged.

And let's emphasize that changing occupations does not require becoming "a top talent" at all. In many cases a year of training is enough to get to a level where one can start getting paid. People can also learn multiple skills simultaneously.

As discussed under "3.2.2 Unfair Income Differences and Limits to Social Mobility", the easiest and most sustainable way to eliminate unfair income differences (e.g. starting from Rawlsian premises[2009]) is to maximize people's options of what position to take – their positive freedom. And this is also what we need to do in order to maximize people's physical and mental ability – including intrinsic motivation – to remain in the workforce longer.[2010] More variance is also more likely to make people's lives more worthwhile and interesting and more versatile skills allow them to adjust to their different life situation both geographically (e.g. moving to another city or country in order to establish a family or to care for sick relatives) and in terms of workplace arrangements (e.g. taking time off to take care of one's children[2011]).

Especially if one intends to undertake a line of work with extreme variance in demand or rate of success, or one with demanding physical requirements or where age might otherwise be a big issue, one should definitely also have a plan B in one's back pocket. Many professional athletes complete a degree in something completely different while their sports careers are still in progress, as they know it often won't last much longer than a decade (in some sports, such as rhythmic gymnastics, possibly even less). Similarly, if you are a firefighter or shipbuilder, you'll be in a much better negotiating position (and probably also a freer state of mind) if you don't leave all your eggs in that one basket.

2006 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".
2007 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".
2008 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".
2009 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance".
2010 See: "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".
2011 For how limitations to "micro-level flexibility" might differ in different lines of work, see: "4.1.1.2 Mid-Term Flexibility (1-5 Years' Scale) Is What's Relevant".

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In today's world, many people end up working in professions not directly related to their degrees – especially many of those who have found work they are truly passionate about.[2012] And as discussed in "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability", the whole institution of academic degrees is quite an outdated one and university tuition today is largely an "initiation rite" that we require people to work through before they are allowed to participate in the labor market (rather than a service aimed at developing people's capabilities).[2013]

Don't let yourself become a "banana republic".

See also: "The Upside of Quitting: A Freakonomics Radio Rebroadcast", Freakonomics Radio, 29th May 2014, cited 21.7.2014, http://freakonomics.com/2014/05/29/the-upside-of-quitting-a-freakonomics-radio-rebroadcast/

"In your choices lies your talent." – Stella Adler

2012 Robinson, Ken, "What Graduation Speeches Should Say but Don't", Time Magazine – Ideas, 21st May 2013, cited 6.6.2013, http://ideas.time.com/2013/05/21/what-graduation-speeches-should-really-say/

2013 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free

In short:

- *Probably the biggest factors preventing people from working less are the need to secure one's own career progress and to save up for potential unemployment.*
- *Removing this game-theoretical setting by making sharing profitable for employers is also the most important part in getting employees to "share work" (i.e. work less when they don't need the additional income).*
- *Social security nets should never discourage working small amounts.*
- *A "basic income" or "citizen's salary" that would provide sufficient sustenance would probably be eaten away by inflation in the current situation – especially with a taxation model based on income taxes.*
- *A social security package of limited economic freedom would be a safer option. Economic freedom (a cash component) can be added when productivity increases enough to allow government surpluses from market-enhancing taxes (like LVT).*

"'Devil catch the hindmost' is the motto of our so-called civilized society to-day." ... "[W]e learn early to grasp from others that we may not want [i.e. end up in deprivation] ourselves. The fear of poverty makes us admire great wealth ; and so habits of greed are formed, and we behold the pitiable spectacle of men who have already more than they can by any possibility use, toiling, striving, grasping to add to their store up to the very verge of the grave..." ... "But the mad struggle would cease when the fear of poverty had vanished." – Henry George, Social Problems (1883, p. 103)

Many of the different reasons for excessive monetary saving (i.e. obstacles for employees to "share work") can be overcome simply by making holding on to risk-free credit

less profitable.[2014] How this can be done by facilitating negative interest rates is discussed in "4.2 Preventing Excessive Monetary Saving – Allowing Monetary Policy to Balance Aggregate Supply and Demand". But many of the needs for individual consumers to gather up excessive savings reserves can also be mitigated.

Income insecurity is a significant obstacle to employment flexibility – especially in an uncertain economic environment (Avery & Zabel 2001, p. 58). A risk of losin one's income encourages people to save more "for a ba day". Therefore, in encouraging employees to shar their work (not save money excessively) without havin to make real interest rates ludicrously negative an risking a stagflation spiral, one of the most crucial step is minimizing the fear of a complete loss of incom Therefore, making the incentives for employers to sha work – especially instead of firing – strong enough plays crucial part for this half as well.

2014 See: "2.3.4 Supply and Demand Could Best Match Earning Opportunities – Just Fix the Imperfections" and "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".

Sidenote Box 415A: The Analogy of Substitute Players

Assume you are playing floorball, soccer or some other team sport as a hobby with your friends or colleagues once a week – among yourselves, just for fun with no long-term competitive ambitions. In floorball, you might be playing with 5+1 players per team on the field. If you have exactly 12 players arriving for the game, you might need to have breaks during the hour of play to give everyone some rest and keep the game vibrant and active. With 14-16 players you would not need breaks, as you might have 1-2 substitute players per team and the substitutions occur quite smoothly as everyone comes to the substitute bench whenever they get tired and each team's stamina gets utilized quite efficiently.

But then one day, there are more than 16 willing to play and one team or both have to play with three substitutes. What easily happens now, is that the time on the substitute bench starts getting unnecessarily and frustratingly long – over 30 % of total game time. This situation could be a blessing, as it would allow all players to run even harder on the field – which would be the optimal solution in the situation.

However, often the opposite happens. As players can't affect when the next person comes to the exchange bench (the duration of their own bench shifts) but only when they themselves get off the field (the duration of their own field shifts), players start to delay their return to the substitute bench in order to get more play time – and even slack a bit more on the field to be able to do so. And when others start prolonging their play shifts, everyone else does so further to maintain their share of field time. As a result, the substitute rate slows down and everyone's time on the bench grows even longer. This is a kind of Prisoner's Dilemma. What would be needed is a system that keeps the substitute rate up – someone calling the next player to come in at regular intervals. Everyone would then have the incentive to make the most out of their time on the field by running and playing as hard as possible. Even with a steady substitute rate, a player who needs more rest can have it by letting someone ahead of him on the bench queue for going back on the field. This gives players with more stamina more efficient field time. Everyone gets more of what they want and the whole team does better.

The problem with taking sabbaticals or breaks between jobs in the current labor market is similar. As everyone's chances of getting back "on the field" – to find work after a sabbatical or period of unemployment between jobs – are very uncertain, even those who do not want to spend or invest more end up keeping their full-time jobs. If we ensure that "taking a pause from the workforce" does not risk long-term unemployment – but on the contrary would increase a person's appeal to employers (due to tax incentives[2015]), everyone would dare take time off when it least interferes with their productivity. Their productivity might even be increased.

2015 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

Of course this protection can never be bulletproof. Even if the risk of long-term unemployment due to demand reasons or structural changes would be eliminated, one could lose one's working ability due to an accident or illness. These could be covered by a health insurance, but instances harder to get insurances for might include one making a mistake that ruins one's reputation on the labor market and hence one's career in a way that takes a long time to salvage so that one can recover one's level of income. For example, a teacher might show up at work slightly under the influence of alcohol (as a result of e.g. peer-pressure by childhood friends the previous night) or a nuclear power plant worker or pilot might cause a close-call situation after having slept badly. Everyone makes mistakes and, when things go wrong, people are unfortunately eager to find someone to blame or excuses to pass the guilt of problems onto specific people. Even a person playing everything as safe as possible might be framed or blacklisted out of malice by a jealous co-worker. One might be defamed in the whole industry by an influential ex-boss, simply as a result of bad cultural fit into that specific company or volatile personal chemistry with that boss. And wrongful jail sentences – or merely an extended suspicion of crime – can ruin careers.[2016] [2017]

For these reasons, it can be argued that some kind of safety net going beyond what any private insurer would cover needs to exist. Otherwise people will be inclined to save up (indebt others) just as a precaution for such worst-case scenarios.

The main function of social security – publicly funded unemployment insurances, health insurances, pension programs etc. – is to guarantee that no one has to fear starvation, freezing to death or a complete loss of his living standard due to losing his source of income. And that is possible, even if cyclical and structural unemployment was eliminated. Without social security or the availability of such private insurance, consumers' propensity to save inevitably increases, as they will have to maintain their own buffers to prepare for these kinds of events. Insurances through private insurance companies require smaller capital buffers than individual saving, as risks can be diversified, but they still require bigger buffers than a government-backed system (which can keep liabilities off-balance-sheet or finance them with long-maturity public debt[2018]).

With no mandatory insurances, those whose income level is sufficient easily prefer covering the risks with savings rather than taking an insurance, as it also allows them to reap the benefits if they remain healthy and employed by using the funds for something else later on in their lives. Or if they die younger than expected, their children can use the accumulated savings. This of course might be less tempting if liquidity had a higher price as a result of a fee on the government deposit guarantee.[2019] On the other hand, those whose income level is so low that every cent counts to make ends meet might prefer to intentionally underestimate the risk of falling ill and choose not to take such an insurance – especially if medical costs and hence health insurance fees are kept ridiculously high with a systematic doctor deficit (as in e.g. Finland and the U.S.).

A good practical example of this situation is present-day China, where social security is weak and surviving a longer illness could require even 2 years' of an average industrial worker's income worth of savings. Everyone having such savings buffers (especially liquid ones) would make the system much more unstable and at risk to hyperinflation and is therefore likely not desirable.[2020] Negative real interest rates on savings are hardly sufficient to eliminate the fear of death and thus the only way to alleviate this propensity to save would be to provide free or affordable health and unemployment insurance.

The downside of social security (especially unemployment support), however, is that the higher it is, the more it starts eating up the relative profitability of working, resulting in the subset of "motivational" or "voluntary unemployment" that we could call "welfare bumming" or "benefit parasitism". You might argue that making it profitable to share work increases the temptation for people in lower paid professions to drop out of work altogether and, instead, find every possible excuse to live on state-provided benefits.

Firstly, let's point out that the result of such "dropping out" in an otherwise free market would not only be an undersupply of labor in these sectors where the demand for work is decreased, because the laws of supply and demand would then put upwards pressure on wages in these professions, which would reduce welfare bumming and encourage people from other professions to move into these earlier low-paying jobs, which would cause labor deficits in other industries as well. Because social support does not balance the supply and demand between different professions, it would push up the overall wages that employees demand (i.e. reduce the supply of labor in general) and hence, the price level. These inflation pressures require the central bank to raise interest rates in

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2016 "Corrupt Government Chemist Tampered With 40 000 Cases, Locking Countless Innocent Americans In Prison", FilmingCops.com, 29th Nov 2013, cited 10.12.2013, http://filmingcops.com/corrupt-government-chemist-tampered-with-40000-cases-locking-countless-innocent-americans-in-prison/

2017 "Brian Banks, football player exonerated in rape case, signs with Atlanta Falcons", CBS News, 3rd Apr 2013, cited 15.8.2014. http://www.cbsnews.com/news/brian-banks-football-player-exonerated-in-rape-case-signs-with-atlanta-falcons/

2018 See: "Sidenote Box 325A: Are Retirement Insurances and Pension Saving Schemes or Funds Necessary?".

2019 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2020 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

order to decrease demand relative to supply.[2021] This means that generous social security (just like minimum wages and other wage regulation[2022]) leads to higher balance interest rates (and hence higher profit requirements on all capital[2023]) and – in the current situation, where work is not shared – a higher unemployment rate.

Even when sharing work is profitable, the result of generous public unemployment support is similar: People will not find it worthwhile to work part-time, because they could earn similar amounts by being unemployed. So, similarly, the result is a higher balance interest rate and higher unemployment.

If social support was further tied to the price index and therefore its purchasing power (and hence its temptingness) wasn't reduced with rising wages and prices, the resulting upwards pressure in wages accompanied by constantly rising unemployment risks would result in hyperinflation that could cause the whole economy to collapse. Thus, there are big costs and risks to the whole society in providing an excessively generous social support. And making sharing work profitable would not remove these risks, but possibly even escalate them.

But instead, getting the labor market to allocate work to people according to their willingness to spend and invest would reduce – almost eliminate – the need and justification for such harmfully generous social support that encourages welfare bumming. In such a situation, what is the optimal tradeoff point between maximizing economic security and minimizing the disincentives to work?

What possible causes are there for a complete loss of income?

1. Trend-based (cyclical) unemployment:
   Unemployment due to a reduction in total demand.
2. Structural or friction unemployment:
   Unemployment due to the inflexibility
   of labor between professions,
   industries, companies or regions.
3. Illness or accident resulting in inability to work
   (e.g. loss of mobility, mental health issues)
4. Loss of reputation as a result of a human
   error or e.g. being framed or blacklisted
   (due to no actual fault of one's own).
5. Intentional neglect of duties.
6. Voluntary unemployment.

Of course, a person can lose her capital income, which is always possible due to the risky nature of investments. This, however, doesn't prevent the person from earning income by moving back to productive work.

Health and work inability insurance can cover for the causes in number 3 without increasing the risks of welfare bumming. And, starting from a Rawlsian concept of justice or a utilitarian or game design approach to the society,[2024] it can be justified that such a basic level insurance should be provided publicly from birth, as long as it is arranged and incentivized so that it does not discourage people from taking care of their own health.[2025] People might be willing to seriously handicap themselves intentionally to avoid the Russian military service, but hardly to avoid work – especially if they had all the profession options within their capacity available to them.[2026]

Causes 5 and 6 are the ones that might increase due to excessively lucrative social security benefits. Essentially unemployment insurance exists to cover for 1, 2 and 4.

If it was profitable to share work and education opportunities weren't limited, mid-term employment would not be dependent on total demand or structural changes. Thus structural (2) and cyclical unemployment (1) would be practically eliminated.[2027] Unemployment support (or insurances) would only be needed for the risks under number 4: spite, a human error or other unintended incident causing one's professional credibility to drop dramatically. If we didn't control wages, even in these situations, a person would often be able to find a lower-paying job with less responsibility where he could start rebuilding others' (and his own) trust in his abilities and diligence. But for cases where this doesn't occur or where it causes a dramatic drop in income, some kind of final social support network is needed to guarantee economic security – a kind that doesn't encourage welfare bumming.

2021 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
2022 See: "2.2.3.3 Wage Regulation by the Government – All or Nothing" and "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics".
2023 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
2024 See: "2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance" and "2.1.6 Conclusions – How about a Game Design Approach?".
2025 See: "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".
2026 Alcoholizing oneself is often considered a sickness in welfare states. And, yes, the degree to which people are able to control their own actions might be considered limited (see: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion"). But in effect, alcoholism – especially the type that hampers working capability – is almost always facilitated by someone else. Often a well-meaning relative taking care of the alcoholic (Hellsten 2012) – but in welfare states, often the patronizing state itself with its social support schemes.
2027 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

The reduced risk of long-term unemployment alone would allow lowering social support without severe moral problems or harmful impacts like excessive saving due to insecurity. But we can do even better. In terms of both encouraging working and guaranteeing economic security, wouldn't the optimal solution be to provide basic necessities for survival and re-educating oneself, but with limited economic *freedom*? This would reduce insecurity, but leave the incentive to always do any additional work available. If social security were provided in the form of a guarantee for basic lodging, nutrition and internet access, but with a very limited cash allowance, we'd have just that.

The government would provide simple cell apartments with free internet access in affordable locations and food coupons that could be used to get affordable but nutritious lunches at cafeterias and buying basic groceries at food stores. Such lunch coupons could be electronic and attached to a person's ID card to prevent resale. Budget accommodation would likely be in remote locations. Another way to arrange it without hampering people's abilities to search for work in cities could be building subterranean accommodation[2028]

Access to these benefits would not be cut off due to income, but be available all citizens. When a citizen's income increases, she could, when she so wishes, substitute this support package for a tax deduction that would be significantly smaller (e.g. 400 e) than the market value of the benefits (e.g. 700 e). There would be no specific income threshold at which benefits are lost and hence no incentive trap preventing people with desire to spend or invest more (and e.g. decide where to live) to earn more. If the tax deduction only counted for the person's income taxes (or her employer's payroll taxes[2029]), then the person would of course have to earn enough for her monthly taxes to reach 400 e before she'd get the full cash benefit.[2030]

With such a non-discriminating security net of minimal economic freedom, everyone would always have the motivation to work more, and welfare bumming would only be tempting to very few ascetic types of people whom the government could easily afford to support. With a limited cash allowance, alcoholism would hardly be possible on the taxpayers' expense.

Practically this solution is similar to a "citizen's salary/dividend" (CS) or a "basic income", with the differences that:

- It would provide less economic freedom to people living only on public support, making intentional welfare bumming less lucrative, not cannibalizing the supply of work as much, as well as causing less inflationary pressure in general (not resulting in increased gains to capital) and lower risks of hyperinflation.
- The option of taking the lower tax deduction (which a majority would be likely to take) would reduce costs. Also the support package might be cheaper to provide due to benefits of scale in providing the accommodation and nourishment services.
- As a result of lower costs, it would not require as steep an income tax progression (or it would leave more of land tax and monopoly profit revenues for other purposes).

The problems with CS are similar to other kinds of excessively generous social support: Even if it doesn't discourage small amounts of work as much, it still strongly cannibalizes work, reducing the supply of labor and thereby causing inflationary pressures.[2031]

We can look at it, firstly, through the question of how to finance the CS through traditional transaction taxes: If I'd get, say a 800 e monthly CS, I'd probably just do enough work to earn me an extra net 700 e – an equivalent of, say, quarter-time work – and spend the rest of my time making music, acting and doing sports. The higher marginal taxes would make earning more very discouraging and even if the marginal tax was as high as 50 % (meaning a gross pay of 1400 e to get that 700 e extra in net), my net tax load would still be -100 e (considering the CS a "negative income tax"). So even after all the possible VATs, land taxation and monopoly industry profits, I pay e.g. in my utility bill, I would still be paying hardly any net taxes at all, and counting in government subsidies of education and other expenses, I'd be a massive net loss to the public sector. And this would be a position many people would be encouraged to take with the marginal tax rate at 30-50 %.

Raising enough taxes to pay all the leeches like me – even with deposit and land taxation – would be a really big challenge. Practically this would lead to massive government indebtedness, which would lead to high risks of hyperinflation.

2028 A window is a luxury for which many people are ready to work, despite the fact that e.g. in Finland, people hardly see the sun for months each year, views can easily be simulated with modern technology and air quality could be kept just as good below the surface. Of course, there might be some fire safety regulations that need to be checked and revised.

2029 See: "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".

2030 Accepting the reductions for land taxation for the person's accommodation might be a little problematic, as this might encourage piling other people's living expenses officially on a person.

2031 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money" and "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

If you are e.g. too Post-Keynesian[2032] to want to see anything dangerous about government debt, the other way to explain this inflationary effect of CS, without requiring higher mathematics, is through supply and demand: CS increases total demand, without increasing total supply of work – which inevitably leads to higher inflation pressures.[2033] I could get by pretty well with the 1500 e I'm getting in total and the low marginal utility of income together with the high marginal taxation makes me demand a very high marginal salary for agreeing to work more than what gets me a gross salary of 1400 e. And as goods are demanded for the full 1500 e, this will inevitably push both wages and prices up, until the real value of the CS drops back to levels insufficient for decent living. If the CS is tied to the price index, it is likely to lead to constantly accelerating inflation.

The idea of a citizen's salary or monetary social support is also ideologically a slightly weird idea. If money is credit, then giving people money for free is "giving people credit for nothing". In the other sense of the word "credit", as deserved appreciation of one's achievements, we tend to frown upon people "taking credit" for things they haven't done or people "being credited" for others' achievements. Of course, we can consider every human being to be worthy of appreciation and respect regardless of their achievements, but this kind of "human value" is not referred to as "deserving credit". We should not draw any normative conclusions from assumptions in the definitions and multiple meanings of words and concepts,[2034] as Henry George reminds us:

> "And nothing so shows the importance of language in thought as the spectacle of even acute thinkers basing important conclusions upon the use of the same word in varying senses." (George 1912, p. 30)

However, even this use of words suggests that many of us consider people to be deserving of life and opportunities, but of no unearned power to control what others do with their time.

Setting aside the previous play on words and interpreting "credit" purely in the economic sense, there is little justification for indebting others to someone else against their will. Giving someone money is essentially giving him credit on others, in other words, indebting others to him.[2035] When money – a token of credit – is free, it loses its practical meaning and value. This is the third (and maybe simplest) way of explaining the inflationary effect of a citizen's salary: Giving people *some* money for free makes the money lose *part* of its market value.

A citizen's salary – "an economic freedom component" to social support – can be slowly phased in when productivity grows further and, as a result, land taxes,[2036] the fee on the government bank deposit guarantee, negative real rates on government debt, and revenues from other non-harmful taxes[2037] start yielding more than is needed to run the public sector. It is more efficient for the economy to start paying the surpluses from such monopolies back to citizens as a "negative income tax", than eliminating these fees and Pigovian taxes that are required to keep the economy self-stabilizing, sustainable and fair. Also, when productivity is high enough, those that go through the bother of acquiring and developing needed skills might not mind supporting the basic living expenses of a few others who don't do work that is compensated in monetary terms.

What about "non-gratuitous social security"? Couldn't social support be made less tempting by giving it a cost, e.g. as lost leisure? What about providing social support as public earning opportunities – the "employer of last resort" (ELR) idea suggested by Post-Keynesian economists? This is one alternative tool that can be used e.g. as a replacement for the cash component of social support, but, as explained in "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs", if the public sector pays people over the market price of their labor (by e.g. providing a "true minimum wage"), this again causes further labor deficits in other sectors and hence upwards pressures on all wages. Also, it would be wholly counterproductive for all citizens if the public sector were to hire people who are not capable of being productive in any work available. It makes even less sense to spend government resources on keeping welfare bums busy in some other way – for example with "training" that is not directed at any specific end. There is little evidence that such policies help the unemployed find new work.

If sharing work were profitable and the market interest rate were right, people with productive capabilities could also find such additional earning opportunities according to their productivity in the private sector. Of course, the public sector would be clever to make all possible productive use out of what's available on the labor market

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2032 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

2033 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2034 See: "5.1.1 Our Emotional Attachment to Words", "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance", "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives", "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2035 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

2036 See: "4.3.1.2 Land Value Taxation – Preventing Underusage, Extortion and Bubbles".

2037 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

– *if* it has use for it. But it makes no sense for it to buy any kind of work just to keep people full-time employed.[2038] After the risks of cyclically and structurally induced long-term unemployment is eliminated, the social support network is essentially only needed to guarantee that people know that they won't starve to death even if they were to lose their productive capacity or labor market credibility altogether.

[2038] See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

4.1.6 Other Factors Increasing Flexibility and Mobility

4.1.6.1 Technological Advances Increasing Flexibility

In short:

- ***New technologies are reducing search costs, allowing the trade of labor in more flexible ways – even as a "spot market" in some cases.***
- ***In addition to allowing new kinds of work to be traded at all, this allows increased mid-term income security in professions and markets where high short-term variation in demand from individual buyers is unavoidable.***

Recruiting for positions of responsibility will always remain a critical and difficult process for companies and therefore companies will put a lot of resources into recruiting. The high costs of finding skillful employees fitting the company culture is yet another reason why it doesn't make sense that our inflexible labor legislation forces companies to adjust to changes in demand by reducing and increasing the number of people they employ – firing and re-recruiting.[2039] If they could get more short-term flexibility from "within" their employees, they would not need to make so many new recruitments when demand picks up again. Even more significantly, the high cost of getting rid of employees further increases the risk of bad recruitments, leading to yet heavier on prequalification processes.

While professional social media, such as LinkedIn, as well as more effective internal HRM systems are making the search for candidates and the selection of recruits more efficient, other technological advances are also allowing much more flexible resourcing than before – both within companies and using ad-hoc external labor. The traditional perception is that external flexible labor is "exploited" and that no one really wants such inconsistent and unpredictable employment. And as explained in "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility", overall economic security would be achieved better by spreading the flexibility needs among a bigger part of the workforce, instead of

[2039] See: "4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs".

having a fixed "traditional workforce" and a small buffer of externals having to endure all the variance.

But this was for long-term, "macro-level" flexibility![2040] Short-term chronological variance in income is fairly irrelevant for economic security as long as one's cumulative mid-term income opportunities remain somewhat predictable. The optimal solution for short-term flexibility is usually not subjecting everyone to the variance equally, as people's needs and tolerance for flexibility vary significantly – quantitatively and qualitatively. E.g. people with a family or hobbies with preset schedules are likely to consider short-term flexibility a bigger cost than single people with more flexible ways of spending their free time. And at times, it can happen that otherwise inflexible people might just happen to have as suitable moment to take some time off or do an extra shift – if the information about such opportunities just flows fluently both ways.

As an extreme case of flexible workforce, some people might be available most of the time, but unable work regularly for long, continuous stretches of time due to e.g. a health condition. Wingham Rowan's TED Talk "A new kind of job market" presents some technological advances that allow utilizing this sort of labor with low transaction costs.[2041] Taskrabbit and Goworkabit are examples of other online services unleashing a whole new labor market in miscellaneous services, both B2B and B2C.[2042] [2043]

The best way to provide income security (predictability of long-term income) to this part of the "contingent workforce"[2044] is to get the market to work as efficiently as possible and facilitate mobility to and from other industries. Even if the occurrence of individual gigs would be random, micro-level chronological flexibility is always needed – especially in service industries – regardless of trends or changes in total industry demand. Therefore efficient resourcing can provide a rather stable income stream for many individuals who can adjust the total amount of gigs they get by adjusting their hourly work prices and the number of gigs they accept. If fewer people prefer such diverse and uncertain work than is available, this will raise the price of this micro-flexibility and encourage flexible people from other sectors to move into the market for a while to balance the longer-term variance in demand.[2045] Anyone choosing to do such work would be rightly compensated for their flexibility.

4.1.6.2 Making Sharing Work Socially Acceptable

In short:

- ***Significant obstacles to allowing people more freedom in how much to work in the mid-term are cultural – e.g. management attitudes, peer-pressure as well as company policies and practices. And these cannot be changed in an instant.***

> "For all modern society's promises of leisure, liberty and doing what you want, most of us are still slaves to a schedule we did not choose. Why have things come to such a pass? Well, the forces of the anti-idle have been at work since the fall of man. The propaganda against oversleeping goes back a very long way, more than 2,000 years, to the Bible." – Tom Hodgkinson, How to be idle (2007)

> "You see, we are psychologically back in the 17th century, and technically in the 20th. And here comes the problem. What we have to find out how to do, is to change the psychological attitude – to money and to wealth, and further more to pleasure and furthermore to the nature of work. And this is a formidable problem. It requires the best brains in public relations, in propaganda, in all that kind of thing, in all the media, television, radio, newspapers, everything – to try to get across a message. To the vast general public about what money is." – Alan Watts[2046]

> "Culture does not change because we desire to change it. Culture changes when the organization is transformed; the culture reflects the realities of people working together every day." – Frances Hesselbein, The Key to Cultural Transformation, Leader to Leader (Spring 1999)

2040 See: "4.1.1.2 Mid-Term Flexibility (1-5 Years' Scale) Is What's Relevant".

2041 Rowan, Wingham, 2013, "A new kind of job market", cited 13.2.2013, TED Talk, http://www.ted.com/talks/wingham_rowan_a_new_kind_of_job_market.html

2042 "How it Works", TaskRabbit.com, cited 19.12.2013, https://www.taskrabbit.com/how-it-works

2043 Goworkabit, cited 13.5.2014, https://goworkabit.com/

2044 See: "4.1.1.2 Mid-Term Flexibility (1-5 Years' Scale) Is What's Relevant".

2045 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2046 22:02->, Watts, Alan, "Money and Guilt", lecture/speech, viewed 16.1.2014, http://www.youtube.com/watch?v=c7tlaF3dv_M

"Culture eats strategy for breakfast." – Peter Drucker
"System eats culture for lunch." – Sami Honkonen
"Culture eats system's guts from the inside during the afternoon and turns system into a zombie avatar to serve culture's own purposes." – Tuure Parkkinen

As discussed in "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?", progressive income taxes should theoretically already be making the sharing of work more profitable, but in practice this does not happen, firstly, because of notable fixed costs per employee, but, secondly, because any changes in work contracts are strongly opposed by labor unions and are considered "socially irresponsible" behavior for companies. A third factor is that bargaining for longer holidays by accepting lower hourly pay or demanding higher pay for overwork is often frowned upon – by superiors, peers and subordinates alike – and therefore it could damage a persons' future career opportunities. Merely asking for more holidays would be considered *greedy* and offering lower pay for getting to do less work would be seen as a sign of *laziness* or *lack of commitment* – even if the will to work less was only caused by a lack of a need for income and not wanting to lose the excess savings due to negative interest rates. There is little understanding for anyone wanting to give part of her earning opportunities to others who have more use for the income. And a big factor here are our economic morals – based on the centuries-old Protestant work ethic – that still attribute absolute value to work.

Fourthly, no one will vote for any kinds of incentives for sharing work or negative interest rates (which would "punish savers," which with our current morals is almost a blasphemous thing to suggest), unless they understand why they would be beneficial for the society and themselves. Ideas hard to explain include that:

- Getting rid of the *dependence* on economic growth would better facilitate wanted economic growth instead of hampering it.
- Incentives to share work can *increase* individual's room for *choice* in how much to work instead of limiting them.
- Flexibility in individual work contracts can increase economic security.
- Saving money is not increasing total wealth in the system, and when done excessively, it is keeping others in involuntary debt.

When talking with an economist about "making sharing work legal, socially acceptable and profitable", there is often a very rash reply: "You can't affect what is considered socially acceptable!" And this is very true in that ideas and especially emotional fixations and moral rules of thumb are very, very sticky. Cultures, institutions, attitudes and ethics do not change overnight, but through a complex evolutionary process. Institutions evolve through discourse: all different types of communication, the transfer and interbreeding of ideas – composed of "memes", the ideological evolution's equivalent of genes.[2047] Unofficial cultural elements, especially stories, often have a much more significant role in this than any "official" information like academic research, government communication or news broadcasts.

Interesting case examples of institutional change include our changes of attitude towards marine mammals, photography and cycling during the 20th century and how they influenced – and were influenced by – the emergence of whole industries.

In the early 20th century, photography was a very specialized hobby and the activity of professionals for documenting events. Kodak managed to associate photography with the emerging phenomenon of "a vacation". Simultaneously as traveling became an integral part of having a holiday, photography was made an almost compulsory form of storing memories – "Kodak moments" – from these trips. (Munir & Phillips 2005)

In the 19th century, bicycling was the hobby of a very limited group of people and was seen as dangerous, disturbing and outright barbaric by the general public. The role of clubs of early adopters and the sense of community that they created played a significant role in gaining socio-cultural acceptability for bicycles. (Norcliffe 2006)

In the early 20th century, whales were depicted as dangerous beasts that should be avoided by all means, exemplified by their portrayal in stories like Pinocchio and Moby Dick. People weren't much concerned for their well-being or worried about waning whale populations before mainstream entertainment started presenting them as human-like, intelligent and emotional creatures that can build deep, empathic relationships with people. The Free Willy movie series for one is argued to have played a big role behind anti-whaling initiatives and the birth of the whole whale watching industry. (Lawrence & Phillips 2004)

Attitudes towards things can and do change, but seldom overnight. The intrinsic value of work, frugality and

2047 See: "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution".

saving are deeply entrenched into many different cultures. In the Western world, this has taken the form of the Protestant work ethic, which, according to Max Weber (1930), had a significant role in the development of modern capitalist societies: making people sacrifice immediate pleasures to facilitate investments that increased productivity. In Asia, the value of work and frugality is manifested in different religions and social codes (e.g. the Confucian teachings), and associated similarly with responsibility and honor. These moral rules of thumb, emotional fixations and social codes make us frown upon people who consider spending more free time and brand them as lazy, disloyal and irresponsible. Simultaneously, the related adoration of frugality and saving have taken further fuel from environmental concerns resulting in an outright demonization of "consumption". "Spending money" (and using products and services in general)[2048] has been strongly associated with the depletion and deterioration of natural resources.

These associations don't disappear just by explaining to people how our current credit money system works and that excessive saving is keeping others in debt – or by telling them that work and capital have no absolute value – but it's a start. We need to re-examine what we consider "responsible" and "ethical" and assess whether the actual effects[2049] of such actions are really in line with our fundamental values.[2050] This book's sister, "The Guilt Economy", attempts to shed light on some of these hidden contradictions in our morality and show how we are causing unintended damage to ourselves, each other and our living environment by following these old rules of thumb blindly, prioritizing the avoidance of guilt and ignoring systemic consequences.

But attitudes will not start changing before these new questions and perspectives are incorporated into the stories our cultures are repeatedly telling. Watching and reading stories that end with the main character sticking to his principles and readily refusing to prevent avoidable, greater damage just to maintain his honor[2051] makes it more likely that people will focus on protecting their own "personal (moral) integrity" and avoiding guilt and blame instead of trying to solve problems. As long as people are reading heroic stories of people who work hard, refrain from material pleasures and focus on giving and in which money and wealth are rather directly equated, they will be fighting a war of trying to indebt each other.

2048 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".
2049 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".
2050 See: "2.1 Normative Principles – What Do We Want from an Economic System?".
2051 Watch e.g. the movie "The Last Samurai", with closer thought to what the main character and the samurai are actually fighting for – and what the consequences of their actions are.

In terms of economic policy, we need to give up on the idea of humans as primarily rational agents[2052] and acknowledge how these cultural issues, institutions, emotions and social pressures might affect people's behavior. These need to be taken into account when developing our economic incentive systems – making our economy a balanced and sustainable game.[2053] If we ignore them, we won't understand why some incentives don't work as they might in simulations or why they need to be stronger than the assumption of rational, outcome-optimizing agents would suggest.

A big part of fixing the Root Bug is correcting common misunderstandings about economics by educating the general public about different perspectives, and opening people's eyes to the outdated morals that still guide both the behavior of individuals and the making of public policies. "The Guilt Economy", attempts to do its part in stimulating such questioning dialogue.

"Company cultures are like country cultures. Never try to change one. Try, instead, to work with what you've got. – Peter Drucker

2052 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".
2053 See: "2.1.6 Conclusions – How about a Game Design Approach?".

4.2 PREVENTING EXCESSIVE MONETARY SAVING – ALLOWING MONETARY POLICY TO BALANCE AGGREGATE SUPPLY AND DEMAND

4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash

In short:

- *A growth-independent, fair and antifragile economy needs the possibility of negative real interest rates.*
- *The zero lower bound of interest rates is practically a (true) minimum wage for capital, which prevents keeping aggregate supply and demand in balance. Together with the free guarantee of bank deposits, risk-free credit can be said to be on a hefty "unemployment support".*
- *The obstacle to negative nominal interest rates is physical cash – notes and coins.*
- *As long as cash is deemed necessary, we need a notably higher target inflation rate, to "tax" cash and facilitate negative enough real interest rates.*
- *Eliminating physical cash would allow negative nominal interest rates and is soon a feasible option in developed economies, as electronic payment services make cash less and less liquid and a relatively costly way of conducting transactions.*
- *Demurrage is another option, but costly and in almost all ways inferior to a higher, stable and predictable inflation rate.*

> "There is, however, a second, much more fundamental inference from our argument which has a bearing on the future of inequalities of wealth; namely, our theory of the rate of interest. The justification for a moderately high rate of interest has been found hitherto in the necessity of providing a sufficient inducement to save. But we have shown that the extent of effective saving is necessarily determined by the scale of investment and that the scale of investment is promoted by a low rate of interest, provided that we do not attempt to stimulate it in this way beyond the point which corresponds to full employment." … "There can be no doubt that this criterion will lead to a much lower rate of interest than has ruled hitherto…" – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 236)

> "So there's something odd about 'financial normalization' – if that's what the whole problem was – and then continued slow growth. So what's an explanation that would fit both of these observations? Suppose that the short-term real interest rate that was consistent with full employment had fallen to negative two or negative three percent sometime in the middle of the last decade. Then what would happen? Then even with artificial stimulus to demand – coming from all this financial imprudence – you wouldn't see any excess demand." … "Then conventional macroeconomic thinking leaves us in a very serious problem. Because, we all seem to agree that, whereas you can keep the

federal funds rate at a low level forever, it's much harder to do extraordinary measures beyond that forever." – Larry Summers[2054]

4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash

(In short: See parent chapter.)

> "[I]t is time for central banks to stop pretending that zero is the floor for nominal interest rates. There is no theoretical or practical reason for not having the Federal Funds target rate and market rates at, say, minus five percent, if that is what your Taylor rule, or whatever heuristic guides your official policy rate, suggests.
> Economics as a science and economic reality have never had problems with negative real (inflation-adjusted) interest rates. So what is the problem with nominal rates? In a word, it's currency [i.e. physical cash]." – Willem Buiter[2055]

> "If the rate of interest were so governed as to maintain continuous full employment, virtue would resume her sway;– the rate of capital accumulation would depend on the weakness of the propensity to consume. Thus, once again, the tribute that classical economists pay to her is due to their concealed assumption that the rate of interest always is so governed." – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 76)

> "Debt can endure forever; wealth cannot, because its physical dimension is subject to the destructive force of entropy." – Frederick Soddy (Eisenstein 2011)

A lot of research shows that many people would like to work less if they just had the realistic option to do so.[2056] But some might argue that there is no guarantee that this number would be high enough to keep everyone employed merely with incentives giving people the possibility to work less. Especially in an uncertain economic environment, there would still be the game theoretical incentive trap for people to save for their own economic security, which would cause unemployment.[2057] And even in the absence of insecurity, other factors – e.g. environmental concerns demonizing "consumption"[2058] or a general Protestant work ethic making them feel responsible about working before playing[2059] – might keep people's "internal discounting rate" negative[2060] even in the long run. Recently Larry Summers has brought this prospect into mainstream discussion with his speech at the IMF Economic Forum in November 2013:

> "Suppose that the short-term real interest rate that was consistent with full employment had fallen to negative two or negative three percent sometime in the middle of the last decade. Then what would happen? Then even with artificial stimulus to demand – coming from all this financial imprudence – you wouldn't see any excess demand."[2061]

This kind of slowing down of economic growth resulting simply from excessive propensities to save and few profitable investment opportunities[2062] is sometimes referred to as "secular stagnation".[2063]

If we only made it profitable for employers to share work, we'd have to make the incentives quite strong in order to overcome the fact that companies will compete over the most skilled workers even with higher amounts of work. And such very high sharing incentives will eventually start reducing individual flexibility in how much one can work[2064] – similarly to setting an upper limit on legal working hours – which might end up doing more harm than good. Due to the irreplaceable productivity of an individual expert or the added value provided to the whole organization by a skilled leader, it's worth it for a

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2054 10:27-> & 12:49->, 2013, "Larry Summers at IMF Economic Forum, Nov. 8", viewed 5.6.2014, https://www.youtube.com/watch?v=KYpVzBbQIX0

2055 Buiter, Willem, "Negative interest rates: when are they coming to a central bank near you?" Financial Times blog, Maverecon, 7th May 2009, cited 6.6.2014, http://blogs.ft.com/maverecon/2009/05/negative-interest-rates-when-are-they-coming-to-a-central-bank-near-you/

2056 See: "3.2.4 Depression, Stress, Addictions and Fitting Work Life with Family Life".

2057 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

2058 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

2059 See: "4.1.6.2 Making Sharing Work Socially Acceptable".

2060 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2061 11:05->, 2013, "Larry Summers at IMF Economic Forum, Nov. 8", viewed 5.6.2014, https://www.youtube.com/watch?v=KYpVzBbQIX0

2062 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

2063 "Secular Stagnation", definition, Financial Times Lexicon, cited 10.6.2014, http://lexicon.ft.com/Term?term=secular-stagnation

2064 See: "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs".

company to take the hit of higher payroll taxes[2065] in order to make the expert or leader commit as much of her life as possible to the company.

If these top talents and people in hard-to-share types of work (like management) happen to be stingy, risk-averse workaholics,[2066] there is nothing that would prevent them from saving large quantities of money (risk-free credit) without investing it into something productive. Thus it is not enough to make it profitable for employers to share work. Even before doing that, we need to make sure that excessive saving as money and other non-business-risk-bearing financial instruments remains unprofitable enough compared to making investments into real and risk-bearing assets – that people's desire to save matches the need for real investments; in other words, that people's willingness to be in debt remains in balance with people's desire to be owed (to hold monetary savings) and that, hence, the aggregate supply of and demand for labor remain in balance. And these are all fundamentally the same thing: An oversupply of capital is a (momentary) oversupply of labor. People's desire to save (as a function of the interest rate) is the "supply of capital" and people's desire to invest (as a function of the interest rate) is the demand for it. Net monetary saving cannot occur in a closed economy – as all debt is to someone else, a creditor. The net desire for monetary saving is the oversupply of labor and it is the *derivative* (the rate of increase) of the oversupply of capital[2067] – especially when that excess private sector saving is facilitated by the public sector taking on debt.[2068]

As explained in, "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply", this is exactly what "conventional monetary policy" is doing: adjusting the profitability of saving money by controlling interest rates so that aggregate demand does not exceed aggregate supply and, hence, price levels don't start soaring uncontrollably (often called "overheating" of the economy) or vice versa.

But when the interest rate is already at zero and there are still strong deflationary pressures and persistent unemployment (an oversupply of labor and people's desire to save compared to others' desire to be in debt), "conventional" monetary policy fails. This "zero lower bound" of interest rates is practically caused by physical cash ("currency"), as Ben Bernanke explains:

> "The use of this instrument [the overnight federal funds rate], however, implies a potential problem: Because currency [i.e. physical cash] (which pays a nominal interest rate of zero) can be used as a store of value, the short-term nominal interest rate cannot be pushed below zero. Should the nominal rate hit zero, the real short-term interest rate – at that point equal to the negative of prevailing inflation expectations – may be higher than the rate needed to ensure stable prices and the full utilization of resources." (Bernanke et al 2004, p. 1)

> "With inflation low and likely to remain so, industrial countries are at risk of encountering the zero bound on nominal interest rates periodically in the future." (Bernanke et al 2004, p. 7)

Although Bernanke has become more careful (probably out of political reasons) about suggesting departing from the 2 % target (at which inflation expectations have been conveniently "anchored")[2069], he would still (in 2012) be going for negative real interest rates, if they were possible:

> "It is arguable that interest rates are too high, that they are being constrained by the fact that interest rates can't go below zero. We have an economy where demand falls far short of the capacity of the economy to produce. We have an economy where the amount of investment in durable goods spending is far less than the capacity of the economy to produce. That suggests that interest rates in some sense should be lower rather than higher. We can't make interest rates lower, of course. (They) only can go down to zero. And again I would argue that a healthy economy with good returns is the best way to get returns to savers."[2070]

As explained in "1.1.8 Labor and Capital (and Land?) – The Factors of Production", there is nothing that says that capital (savings) should always make a profit. When the economy is expected to decline (people are not expected to spend more in the near future) and therefore no additional investments are needed and when people's average time preference is "first work, then play", risk-free capital needs to make a loss! If, when real assets make a loss due to overcapacity, credit – others' debt, including cash and government bonds – remains a safe haven for capital, it can lead to nothing but an ever growing debt bubble and expansion of the financial sector as a result of increased monetary saving. It is mathematically

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2065 See: "4.1.2.4 Continuously Progressive Payroll Taxes".
2066 See: "6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them".
2067 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous", "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money" and "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends On Future Consumption and Capital Intensity (and Monopolies)".
2068 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".
2069 See: "4.2.4.2 'Higher Inflation Has Never Been Stable'".
2070 "Highlights: Bernanke's Q&A testimony to House panel", Reuters – Washington News Room, 29th Feb 2012, cited 20.12.2013, http://mobile.reuters.com/article/topNews/idUSTRE81S1DO20120229

impossible to pay off debts if creditors hold on to their credit. If no private parties want to take on more loans, the government has to take on more debt[2071] – i.e. to stimulate the economy fiscally[2072] – to prevent unemployment and a deflationary vicious circle from getting out of hand. And as the government is very inflexible in taxing credit off the market, a constant increase in such credit (especially liquid credit) backed by government debt (instead of private debt) soon starts increasing risks of hyperinflation.[2073] The far more sustainable – and obvious – solution is to lower the interest rate below zero to prevent excessive private saving.

The zero lower bound of interest rates is practically like a "minimum wage" for capital! And, similarly to minimum wages in the labor market, it causes supply and demand mismatches – in this case, a mismatch of the total supply and demand for labor (and hence capital). However, this minimum wage is a "true minimum" wage, in that all capital has the option of just sitting as cash or bank deposits, unlike the minimum wages in labor legislation or collective agreements, which only *ban trade* below a price (as Post-Keynesians wittily note when they suggest that the government should act as an employer of last resort, ELR[2074]). When there is too much debt in the economy, risk-free credit (unemployed capital), needs to start making a loss. (In addition to this "minimum wage", capital also receives a direct government subsidy in the form of the free government-provided deposit guarantee, which needs to have a price imposed on it.[2075] So actually – as risk-free credit is not productive[2076] – we could call these two collectively "the "unemployment support of capital".)

So, **a working, fair, growth-independent and self-stabilizing economic system really needs the possibility of negative interest rates!**[2077] Unfortunately, as long as physical cash exists (for another 10-30 years, maybe?[2078]), there is no realistic way to lower *nominal* interest rates below zero to make saving money even less profitable. The central bank could pay banks for holding its money by lowering its policy rate – the interest rate it charges banks – negative, but this is not transferred to retail banks' interest rates on their deposits and loans, because a negative interest on bank deposits would cause consumers and companies to withdraw their deposits as cash because cash would preserve its value better. This is called a *bank run*. And because banks still need to make the same margins between the deposit (and corporate bond) rates they pay and the loan rates they charge in order to remain profitable, new loans cannot be granted any cheaper than before either.

> **"Early in [the 90s], Lawrence Summers (1991) argued that, because nominal interest rates cannot fall below zero, monetary policy faces a trade-off between achieving zero average inflation and macroeconomic stability, given that the latter occasionally requires negative real interest rates to offset contractionary disturbances. Until the past few years, this issue appeared moot in the United States and most other developed economies. However, with inflation lately falling to very low levels here and abroad, the proposition that policy could be constrained with interest rates stuck at zero for a prolonged period of time no longer seems far-fetched. Indeed, this possibility has become reality in Japan…" – David L. Reifschneider & John C. Williams, Three Lessons for Monetary Policy in a Low Inflation Era (2000, p. 1)**

> **"The answer to our problems, however, could well be more negativity. But I'm not talking about attitude. I'm talking about numbers." … "The idea of negative interest rates may strike some people as absurd, the concoction of some impractical theorist. Perhaps it is. But remember this: Early mathematicians thought that the idea of negative numbers was absurd. Today, these numbers are commonplace. Even children can be taught that some problems (such as 2x + 6 = 0) have no solution unless you are ready to invoke negative numbers. Maybe some economic problems require the same trick." – N. Gregory Mankiw[2079]**

2071 See: "Sidenote Box 12bA: The Misleading Expression That 'Banks Lend Other People's Money'".

2072 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

2073 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs" and "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

2074 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

2075 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2076 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

2077 …unless we somehow manage to completely revers our protestant work ethic and get people to be extremely lazy, hedonic consumers and impatient to save. More on these ethics in "The Guilt Economy".

2078 See: "4.2.1.3 …Or Just Eliminate Physical Cash (That Decreasingly Liquid and Necessary Rubbish)".

2079 Mankiw, N. Gregory, "It May Be Time for the Fed to Go Negative", The New York Times – Economic View, 19th Apr 2009, cited 22.12.2013, http://www.nytimes.com/2009/04/19/business/economy/19view.html?_r=0

Sidenote Box 4211A: Silvio Gesell's Theory of 'Basic Interest' and 'Free-Money' – The Same in the 'Medium of Exchange' Frame

"2. The physical properties of the traditional form of money (metal money and paper-money) allow it to be withdrawn indefinitely from the market without material cost of storage; whereas producers (workers), to whom money is essential for effecting exchanges, are compelled, by the constantly increasing losses connected with the storage of wares, to create a demand for money.

3. The merchant can therefore force the possessors of wares to make him a special payment in return for the fact that he refrains from arbitrarily postponing, delaying, or, if necessary, preventing the exchange of wares by holding back his money." ...

"In the division of the product between capitalists and proletariat everything depends upon the ratio of demand to supply. The capitalist can expect interest on his means of production only as long as demand exceeds supply." – Silvio Gesell, The Natural Economic Order (1916, Part 5, Ch. 2 & Ch. 6)

Silvio Gesell realized over a century ago that the interest rate and hence the profit requirements of all capital investments are maintained at a minimum level simply by the fact that moneylenders can refuse to lend their money – that they can demand a compensation by "obstructing free trade", comparing them to the monopolist "robber barons" charging immense fees for using their roads to transport goods.

> **"But the tribute which money claims for its use follows other laws than those governing the use of land; it more resembles the tribute exacted by the robber barons of the Middle Ages. Merchants who were forced to use a road which passed the baron's castle were thoroughly plundered; dues of 30, 40, 50% were exacted." ...**
>
> **"A king stands beside the barrier; he obstructs the stream of commerce across the frontier and says 'The tithe is mine!' A moneylender stands beside his safe, he obstructs the exchange of commodities which requires its contents, and says 'Interest is mine'. King and money-lender render no service, they exact a tribute simply by obstruction..." (Gesell 1916, Part 5, Ch. 2)**
>
> **"Except for the traditional form of money, the road is free for loan-money without interest, as well as for houses and means of production without interest." (Gesell 1916, Part 5, Ch. 5)**

Gesell suggests that if this ability to hoard cash profitably and the resulting "basic interest" would be removed, the interest on real capital would be determined by supply and demand for those capital assets. The concept of "basic interest" is analogous to the way this book calls the ZLB the "minimum wage of capital".[2080]

> **"Up to the introduction of Free-Money interest on real capital depends on basic interest; after the introduction of Free-Money basic interest will disappear, and interest on loans will be exactly determined by interest on real capital. Borrowers of money will no longer pay interest because money can exact a tribute from the wares, but because the demand for loans, for the time being, exceeds the supply." ...**

2080 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

Continued on page 442 ▶

> "Interest on real capital is determined by demand and supply; it is subject to the laws of competition and can be eliminated by a simple change in the ratio of demand to supply. With basic interest this would never be possible. Interest on real capital has up to the present been protected from such a change – the condition for the production of real capital being that it should be able to exact interest equal to basic interest." ...
>
> "[L]et us assume that a costly machine is discovered with which everyone can double his present production. This would cause an unprecedented demand for loan-money to purchase the new machine. Everyone would install it and scrap the old machines. Even if interest upon loan-money had disappeared, this enormous new demand would cause its reappearance. Under these circumstances (the conversion of all existing machinery into scrap-iron) interest might even reach an unprecedented height." (Gesell 1916, Part 5, Ch. 5)

Capital investments *are* work that needs to be done *upfront*, before the benefits are received – which is why Gesell calls them, too, "loans".

> "With the interest on real capital, on the contrary, we have, not an exchange, but a loan. The landowner lends his land to a farmer, the house-owner lends his house to a tenant, the manufacturer lends his factory to the workmen, the banker lends money to his debtor – but the merchant who exacts interest from the wares lends, nothing; he makes an exchange." (Gesell 1916, Part 5, Ch. 5)

Also, note how Gesell focuses on "loan-money" instead of labor as the resource used. Despite dismissing the Quantity Theory (Gesell 1916, Part 3, Ch. 15), to Gesell – just like to Marxists and the Austrian school[2081] – money was a "ware"[2082] (a commodity) and an "instrument of exchange and nothing else." (Gesell 1916, Part 4, Ch. 1) He assumed its supply to be inelastic[2083] and – like e.g. Irving Fisher in his Theory of Interest (1930) – that "money-lenders" lend on money which they have extracted from the market,[2084] omitting the possibility of banks "extending credit".[2085]

In today's credit money system, hoarding money does not obstruct trade (by raising nominal interest rates the way Gesell assumed), as new "loans" can always be made – but, nevertheless it is keeping others in debt. But at the zero lower bound, if the government does not take on the required debt to facilitate the hoarding (excess saving),[2086] the unemployed will be unlikely to get additional credit from banks indefinitely.

Gesell's solution was a currency with demurrage – a systematic nominal devaluation – imposed on cash. This alternative is discussed in "4.1.2.4 Continuously Progressive Payroll Taxes".

2081 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

2082 "The demand for wares will not always coincide with the stock of money ... but money is a ware and therefore sooner or later compels its possessor to offer it in exchange." ... "Again, since money is a ware, more money will be offered in exchange, on the average, over a period of years, where the stock of money is larger than where it is smaller." (Gesell 1916, Part 3, Ch. 10)

2083 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous" and "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money'".

2084 "There is no such thing as competition between money-lenders; competition is here an impossibility. If the money offered for loan by capitalists is drawn from the existing circulation, the capitalists, by lending this money, merely fill the holes they have dug by withdrawing it. Ten, a hundred or a thousand money-lenders mean ten, a hundred or a thousand holes dug by these money-lenders in the path that money has to pursue. The greater the amount of loan-money offered, the larger are these holes." (Silvio Gesell 1916, Part 5, Ch. 2)

2085 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".

2086 See: "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

4.2.1.2 A Higher Inflation Target Leaves 'Room to Cut' by 'Taxing' Cash

(In short: See parent chapter.)

"We either need to run a background level of inflation that's high enough to avoid zero bound episodes, or else shift the policy lever to something that's not effected by these issues." – Matthew Yglesias[2087]

"The zero lower bound is a nominal problem. However low the real interest rate, an economy can keep nominal rates safely in positive territory by running a sufficiently high rate of inflation." ... "Now again, just why the real, natural rate of interest is currently -4% is an interesting question, but it's irrelevant to the challenge of closing the output gap. All that matters there is that expected inflation is between 1% and 2% instead of near 4%. That's the problem; that's what's keeping tens of millions of people out of work and hundreds of millions languishing in a perpetually weak economy: a couple of percentage points of inflation." – Ryan Avent[2088]

"This is not a new fear: worries about secular stagnation, about a persistent shortfall of demand even at low interest rates, were very widespread just after World War II. At the time, those fears proved unfounded. But they weren't irrational, and second time could be the charm." ... "One answer could be a higher inflation target, so that the real interest rate can go more negative. I'm for it!" – Paul Krugman[2089]

So how do we overcome this problem of the zero lower bound on nominal rates? By making sure that the negative interest on cash is even higher than that on bank deposits! Unfortunately, it is very costly to physically tax cash – collect a negative nominal interest on it.[2090] However, the value, purchasing power, of the cash can change, which has exactly the same practical effect – just more continuously and with less bureaucracy. The *real interest rate* can be negative as a result of inflation – the rise in the overall price level![2091]

N. Gregory Mankiw, referring back to Silvio Gesell's suggestion of a tax on money,[2092] is one to point out that inflation can facilitate negative rates by making cash earn less.

> "The problem with negative interest rates, however, is quickly apparent: nobody would lend on those terms. Rather than giving your money to a borrower who promises a negative return, it would be better to stick the cash in your mattress. Because holding money promises a return of exactly zero, lenders cannot offer less.
>
> Unless, that is, we figure out a way to make holding money less attractive." ...
>
> "The idea of making money earn a negative return is not entirely new. In the late 19th century, the German economist Silvio Gesell argued for a tax on holding money." ...
>
> "If all of this seems too outlandish, there is a more prosaic way of obtaining negative interest rates: through inflation. Suppose that, looking ahead, the Fed commits itself to producing significant inflation. In this case, while nominal interest rates could remain at zero, real interest rates – interest rates measured in purchasing power – could become negative. If people were confident that they could repay their zero-interest loans in devalued dollars, they would have significant incentive to borrow and spend."[2093]

But as can be seen ("...they would have significant incentive to borrow and spend."), just like e.g. Scott Sumner who argues for nominal GDP targeting (which includes allowing higher inflation rates), Mankiw assumes that monetary policy can only affect aggregate demand, dismissing the possibility that it could also affect the aggregate supply of labor. The most common formulations

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2087 Yglesias, Matthew, "Zero Matters Because Rules Matter", Slate, 19th Apr 2012, cited 6.6.2014, http://www.slate.com/blogs/moneybox/2012/04/19/digital_currency_ends_recessions.html

2088 Avent, Ryan, "The solution that cannot be named", The Economist, Nov 17th 2013, cited 6.6.2014, http://www.economist.com/blogs/freeexchange/2013/11/secular-stagnation

2089 Krugman, Paul, "Bubbles, Regulation, and Secular Stagnation", New York Times – The Opinion Pages, 25th Sep 2013, cited 10.6.2014, http://krugman.blogs.nytimes.com/2013/09/25/bubbles-regulation-and-secular-stagnation/

2090 See: "4.2.1.3 ...Or Just Eliminate Physical Cash (That Decreasingly Liquid and Necessary Rubbish)".

2091 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2092 See: "4.2.1.4 Demurrage Is Unnecessarily Costly to Implement".

2093 Mankiw, N. Gregory, "It May Be Time for the Fed to Go Negative", The New York Times – Economic View, 19th Apr 2009, cited 22.12.2013, http://www.nytimes.com/2009/04/19/business/economy/19view.html?_r=0

of "demand-pull inflation"[2094] – and its very name – also include this assumption that inflation accelerates whenever aggregate demand is increased beyond the *ability* of the economy to produce – its "potential output" (O'Sullivan & Scheffrin 2003, p. 341) – omitting the possibility that it might also be caused by the economy's *willingness* to produce (aggregate supply) decreasing below aggregate demand.

Critics of lowering interest rates and higher inflation (not only Austrian economists[2095]) are even louder to argue that this would cause increasing amounts of debt in the economy and that these debts further increase instability and risks of credit crises.[2096] They fail to notice that the negative returns on deposits could also encourage people to spend off their savings – either by simply spending more or by working less, (see: Graph 23) which could allow paying off debts and decrease the amount of debt in the economy – i.e. *increase money velocity* and *shrink* the money supply! This effect could be further increased by setting a fair price on the government guarantee on deposits, which would make monetary saving less profitable without making borrowing cheaper.[2097] However, as long as people don't have the realistic option of working less (i.e. as long as "a job is a job",[2098] that you either have or you don't), this assumption of a limited effect on labor supply is not far from the truth. Even people with big amounts of savings would not dare to quit their jobs out of fear of not being able to "jump back on the train" and ending up long-term unemployed.[2099]

Also, both of these hypothetical and feared suggestions – making unemployment rates a more important, direct monetary policy guideline for the central bank (New Keynesians, e.g. Krugman, Chang) and adopting nominal GDP targeting (market monetarists, e.g. Sumner) – involve abandoning *inflation stability*, i.e. allowing inflation to rise as a temporary measure. This makes future inflation unpredictable, results in unexpected (and unfair) wealth transfers and can be argued to increase uncertainty in the market and raise real interest rates. As explained under "4.2.4.1 Problems with Unstable and Unpredictable Inflation", volatile and unpredictable inflation is a serious threat (despite the counterexample of e.g. China). There is little guarantee that nominal GDP targeting could not lea to "hyperstagflation".[2100]

However, the same risks would not apply to a higher, sta and *predictable* inflation rate.

Let's assume that the target inflation rate of the centr bank was 10 % (as a round-figure-example for the purpos of demonstration only – of course this is likely to b unnecessarily high). During a period of economic growt this would make hardly any practical difference to th current situation as – according to the Fisher Effect[210 nominal interest rates would compensate for the inflatio bringing real interest rates to where they would be in similar economic situation with a lower inflation target.

If banks (wanting to remain competitive over deposit for example wanted to pay a 1 % real interest on deposit with a target interest rate of 2 %, they would pay a 3,02 interest on deposits. With a 10 % target inflation rat they'd pay 11,1% nominal interest to achieve the same re interest rate. If, with 2 % inflation they charged a 6,08 interest on a granted loan, with 10 % inflation, they charge 14,4 %. In both cases the real interest rate is 4 The banks' real margin (3 %) and the consumers' real co of borrowing would be exactly the same in both cases.

2094 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money.

2095 See: "4.2.4.11 Austrian and Fundamentalist Libertarian Arguments" and "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

2096 See: "Sidenote Box 311A: Other Theories of Cyclicity: 'Debt Deflation', ABCT and Real Estate Pull".

2097 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2098 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

2099 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability" and "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2100 "A condition of slow economic growth and relatively high unem ployment - a time of stagnation - accompanied by a rise in prices, or infl tion."
- "Stagflation", definition, Investopedia, cited 6.11.2013, http://www.in vestopedia.com/terms/s/stagflation.asp

2101 See: "Sidenote Box 4212A: The Fisher Equation and the 'Hausse pr mium'".

Sidenote Box 4212A: The Fisher Equation and the 'Hausse premium'

The previous calculation was made with the exact formulation of the Fisher equation:

$$(1+i) = (1+r)\,(1+\pi) = 1 + r + \pi + r\pi)$$

where "r" is the real interest rate, "i" is the nominal interest rate and "π" is the inflation rate. For simplification, this is often rounded off to:

$$i = r + \pi,$$

as the term $r\pi$ is usually relatively very small with low interest and inflation rates, E.g. in the previous calculation, the error is at most 0,3 percentage-points or 10 %: 14,4 % – 11,1 %= 3,3 % vs. 14 % – 11 % = 3 %).

To determine future real interest rates according to expected inflation (π_e) ex-ante, we get:

$$r = i - \pi_e$$

Silvio Gesell named the component of (nominal) interest compensating for an expected rise in the price level the "Hausse premium", along the German word for a rise in prices. (Gesell 1916, Part 5, Ch. 7)

There are a few differences that a higher inflation target causes. These are discussed in the subchapters of "4.2.3 Other Benefits of Higher Inflation or Negative Nominal Interest Rates" and "4.2.3 Other Benefits of Higher Inflation or Negative Nominal Interest Rates".

Most importantly, though, when the economy declines, monetary policy can still be effective because real interest rates can now become negative.

This idea has been suggested e.g. by Matthew Yglesias and Ryan Avent.[2102] [2103] Daniel Leigh (2010),[2104] an economist at the Research Department of the IMF, presents one simulated case for how Japan could have avoided its "lost decade" of stagnation and deflation with such a "room to cut" interest rates.

Model simulations conducted by John C. Williams of the Federal Reserve Bank of San Francisco imply that

> "an additional 4 percentage points of rate cuts would have kept the unemployment rate from rising as much as it has and would bring the unemployment and inflation rates more quickly to steady-state values, but the zero bound precludes these actions. This inability to lower interest rates comes at the cost of $1.7 trillion of foregone output over four years. Second, if recent events are a harbinger of a significantly more adverse macroeconomic climate than experienced over the preceding two decades, then a 2 percent steady-state inflation rate may provide an inadequate buffer to keep the zero bound from having noticeable deleterious effects on the macroeconomy assuming the central bank follows the standard Taylor Rule." (Williams 2009, abstract)

It is hard to determine exactly how much "room to cut" – the possibility of how low real interest rates – an economy might need in the future. When the economy contracts at a rate where no additional real investments are needed, the market interest rate, theoretically, depends purely on people's time preference.[2105] However, if people in currently poor nations[2106] are given access to earning opportunities and education to improve their productivity, profitable investment opportunities will exist in meeting the demand created by this growing market struggling to attain decent living standards. Also, if fossil fuels

2102 Yglesias, Matthew, "Zero Matters Because Rules Matter", Slate, 19th Apr 2012, cited 6.6.2014, http://www.slate.com/blogs/moneybox/2012/04/19/digital_currency_ends_recessions.html

2103 Avent, Ryan, "The solution that cannot be named", The Economist, Nov 17th 2013, cited 6.6.2014, http://www.economist.com/blogs/freeexchange/2013/11/secular-stagnation

2104 Leigh, Daniel, 2010, "A 4% inflation target?" Column at Voxeu policy portal, Centre for Economic Policy Research, cited 15.1.2013, http://www.voxeu.org/article/4-inflation-target

2105 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production"

2106 See: "3.3.1 Solving Poverty for Good – Ending the Economy War" and "3.3.4 Slave-Rate Wages, Inhumane Working Conditions and Child Labor"

were taxed decisively out of use, there would be huge investment opportunities in the R&D, infrastructure and production capacity of renewable energy.[2107] In a system where long-term unemployment risks were mitigated,[2108] it is likely that long-term real interest rates lower than -5 % will not be needed for decades to come. However, the *possibility* of lower interest rates than this is needed to avoid investors speculating on deflation resulting from the system getting stuck at the new lower bound. The system has to be antifragile to a worst-case scenario where a supply or demand shock (by suddenly lowering expected future consumption) halts the need for almost all new investments for years. For example, after the crash of 2008, variants of the Taylor Rule would have suggested needed interest rates of closer to -7 %.[2109] [2110] Of course the situation might not have become "that bad" had the rate been able to drop below zero immediately – and especially had there been no risk of long-term unemployment for consumers.

Instead, in the current system with its self-reinforcing labor market mechanisms (most notably the fear of long-term unemployment) it is possible to fall into a *stagflation* (combined inflation and economic decline) that can escalate into a world-wide economic collapse – especially when the higher inflation is always an accident (as it is in the current system) instead of a predetermined policy decision. Unexpected inflation does not function as a negative real interest rates (encouraging investment), but as an immediate wealth transfer between debtors to creditors (i.e. or a partial credit default, "robbery"), which increases economic uncertainty and thereby has paralyzing effects.[2111]

Thus, say, a 6-8 % target inflation rate for the central bank combined with the profitability of sharing work for employers would likely be enough to make the economy self-stabilizing from most demand and supply shocks and adaptable to any combination of long-term consumption preferences. Fiscal stimulus[2112] would only be needed to aid recovery from exceptionally big shocks. The only limitation to growth would be those consumption preferences and individual consumers' productivity.

2107 See "3.4.1 Global Warming and Dependence on Fossil Fuels".
2108 See "3.1 Economic Stability and Prosperity" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
2109 Krugman, Paul, "The madness of the inflation hawks", blog post, New York Times, 16th Nov 2009, cited 2.7.2013, http://krugman.blogs.nytimes.com/2009/11/16/the-madness-of-the-inflation-hawks/
2110 "Can the Taylor rule describe the current stance of monetary policy?" Federal Reserve of Atlanta, macroblog, 30th Jul 2009, cited 3.7.2013, http://macroblog.typepad.com/macroblog/2009/07/can-the-taylor-rule-describe-the-current-stance-of-monetary-policy.html
2111 See "4.2.4.1 Problems with Unstable and Unpredictable Inflation".
2112 See "2.2.5.1 Keynesian Fiscal Stimulus – It's the Government's Job to Invest Stably".

"The German trauma from the hyperinflation was such that the Bundesbank, the West German central bank after the Second World War, was famous for its excessive aversion of loose monetary policy. Even after the birth of the European single currency, the euro, and the consequent *de facto* abolition of national central banks in the Eurozone countries, Germany's influence has made the European Central Bank (ECB) stick to tight monetary policy even in the face of persistently high unemployment..." ... "Our obsession with inflation should end. Inflation has become the bogeyman that has been used to justify policies that have mainly benefited the holders of financial assets, at the cost of long-term stability, economic growth and human happiness." – Ha-Joon Chang, 23 Things They Don't Tell You About Capitalism (2010, p. 53 & 61)

4.2.1.3 ...Or Just Eliminate Physical Cash (That Decreasingly Liquid and Necessary Rubbish)

(In short: See parent chapter.)

"First, it is precisely the existence of paper currency that makes it difficult for central banks to take policy interest rates much below zero, a limitation that seems to have become increasingly relevant during this century." – Kenneth Rogoff, Costs and Benefits to Phasing Out Paper Currency (2014, p. 1)

"[O]ne virtue of a cashless economy is that we could always cure recessions with 'old fashioned' monetary policy. The so-called zero lower bound is a pure artifact of the existence of physical cash." – Matthew Yglesias[2113]

"But given the fact that e-money that can pay positive or negative interest without any additional cost can now be made available to all, in the advanced (post-) industrial countries, and given that even traditional bank accounts, credit

2113 Yglesias, Matthew, "Less Than Zero", Slate, 12th Dec 2011, 6.6.2014, http://www.slate.com/blogs/moneybox/2011/12/12/less_than_zero.html

cards and debit cards can take care of most of the retail payment system without creating a zero lower bound constraint on nominal interest rates, we really don't need cash to facilitate trade and commerce. It is a redundant, indeed dominated medium of exchange and means of payment for legitimate transactions." – Willem Buiter[2114]

Remember that the only reason we need the higher inflation rate is to facilitate negative real interest rates. If we didn't have physical cash, negative interest rates could be charged nominally from bank accounts and there would be no need for any inflation. For clarity of accounting (easier to see real profits and compare prices and revenues of different years[2115]), we could shift to a 0 % inflation target. And this is not a very far distant utopia. When mobile, electronic forms of payment become easier and cheaper to use and accessible for the whole population,[2116] [2117] it is possible that cash as tokens of credit can become a completely redundant accounting tool within 5-20 years.

Matthew Yglesias[2118] is one to discuss this idea of eliminating cash. Miles Kimball suggests introducing cash that is distinct from the unit of account and can hence have different inflation rate. Willem Buiter considers both alternatives as well as a form of demurrage (taxing cash).[2119] [2120]

Ryan Avent[2121] points out how the obstacle is more political than technical. The main objective in current politics is neither to increase welfare or economic prosperity and stability, but to maintain incumbent creditors' purchasing power.[2122] And this protection of people's divine right to save money profitably is also the only reason for the need for all countries to strive for an absolute competitive advantage against each other[2123] – the economy war between nations that is sustaining perpetual poverty. This perversion in our outdated economic morality, which gives people the justification to the usury of keeping others in debt against their will and paying interest to them even in situations of a massive oversupply of capital,[2124] is discussed in more detail in The Guilt Economy.

Eliminating official, government-issued cash ("legal tender") does of course not need to prevent private companies from issuing their own cash systems or some kind of physical tokens to transfer credit (compare to e.g. traveler's checks) with innovative depreciation solutions for them.[2125]

"The bottom line is that all we have to do to give the Fed (and other central banks) unlimited power to lower short-term interest rates is to demote paper currency from its role as a yardstick for prices and other economic values – what economists call the 'unit of account' function of money." – Miles Kimball[2126]

2114 Buiter, Willem, "Negative interest rates: when are they coming to a central bank near you?" Financial Times blog, Maverecon, 7th May 2009, cited 6.6.2014, http://blogs.ft.com/maverecon/2009/05/negative-interest-rates-when-are-they-coming-to-a-central-bank-near-you/

2115 See: "4.2.4.13 Inflation Distorts Economic Decision Making".

2116 Kolakowski, Nick, "SXSW: How Mobile Devices Are Changing Africa", Slashdot, 9th Mar 2013, cited 22.12.2013, http://slashdot.org/topic/cloud/sxsw-how-mobile-devices-are-changing-africa/

2117 E.g. http://www.izettle.com/ ; http://www.zaypay.com/overview ; https://holvi.com/

2118 Yglesias, Matthew, "Mo Money, Mo Problems", Slate.com, MoneyBox blog, blog post, 12th Dec 2011, cited 17.6.2013, http://www.slate.com/articles/technology/technology/2011/12/how_eliminating_paper_money_could_end_recessions_.html

2119 See: "4.2.1.4 Demurrage Is Unnecessarily Costly to Implement".

2120 "My earlier post described three ways of removing the zero lower bound on nominal interest rates:

(1) Abolish currency

(2) Tax currency holdings

(3) De-couple the numéraire/unit of account from the currency/medium of exchange/means of payment by introducing a new currency (the rallod) and abolishing the dollar currency. The dollar would remain the numéraire."

– Buiter, Willem, "Negative interest rates: when are they coming to a central bank near you?" Financial Times blog, Maverecon, 7th May 2009, cited 6.6.2014, http://blogs.ft.com/maverecon/2009/05/negative-interest-rates-when-are-they-coming-to-a-central-bank-near-you/

2121 Avent, Ryan, "The buck shrinks here", The Economist, Free Exchange, Apr 16th 2012, cited 17.6.2013, http://www.economist.com/blogs/freeexchange/2012/04/monetary-policy-0

2122 Another blogger, Steve Randy Waldman also notes this policy objective issue ("Depression is a choice", 17th Apr 2012, http://www.interfluidity.com/v2/3212.html), but it an earlier blog post supports the idea of inflation-protected "starter savings accounts" to that would prevent negative interest rates to be imposed on the middle class – with the idea of making it politically less controversial to increase inflation risks (and hyperinflation risks) with violent fiscal stimuli ("Starter Savings Accounts", 12th Feb 2012, http://www.interfluidity.com/v2/2874.html). This is yet another example of very shortsighted interest-group-political thinking – fueled by the same protestant work ethic that justifies monetary saving as a source of economic security. If it were possibly with "non-hypothecability" to prevent "the rich" from utilizing this free insurance, the increased inflation-risk (note: not higher inflation, but *risk*) on their credit would rather increase market interest rates significantly due to increased uncertainty. And first and foremost, this would raise the risks of hyperinflation to the third power as any inflation would lead to bigger public deficits, as a result of huge compensation payments, instead of reducing public debt as the negative interest on government debts (resulting from inflation) would otherwise do.

2123 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage", "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further" and "3.3.1 Solving Poverty for Good – Ending the Economy War".

2124 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2125 See: "4.2.1.4 Demurrage Is Unnecessarily Costly to Implement".

2126 Kimball, Miles, "How paper currency is holding the US recovery back", 5th Nov 2012, cited 6.6.2014, http://qz.com/21797/the-case-for-electric-money-the-end-of-inflation-and-recessions-as-we-know-it/

4.2.1.4 Demurrage Is Unnecessarily Costly to Implement

(In short: See parent chapter.)

> "The idea of making money earn a negative return is not entirely new. In the late 19th century, the German economist Silvio Gesell argued for a tax on holding money. He was concerned that during times of financial stress, people hoard money rather than lend it. John Maynard Keynes approvingly cited the idea of a carrying tax on money. With banks now holding substantial excess reserves, Gesell's concern about cash hoarding suddenly seems very modern." – N. Gregory Mankiw[2127]

> "Commodities in general, straw, petrol, guano and the rest can be safely exchanged only when everyone is indifferent as to whether he possesses money or goods, and that is possible only if money is afflicted with all the defects inherent in our products. That is obvious. Our goods rot, decay, break, rust, so only if money has equally disagreeable, loss-involving properties can it effect exchange rapidly, securely and cheaply. For such money can never, on any account, be preferred by anyone to goods." – Silvio Gesell, The Natural Economic Order (1916, Part 4, Ch. 1)

> "Paying a negative interest rate on currency, or on electronic reserves at the central bank, may seem barbaric to some. But it is arguably no more barbaric than inflation, which similarly reduces the real purchasing power of currency. The idea of raising target inflation to reduce the likelihood of hitting the zero bound is indeed an alternative approach." – Kenneth Rogoff, Costs and Benefits to Phasing Out Paper Currency (2014, p. 2)

An alternative way to impose a negative interest on cash is demurrage: charging a price for holding it or continuously decreasing the nominal value of notes. One way to do this is to require notes to be stamped regularly at a price to keep them valid, as Silvio Gesell suggested in his "Freigeld" model. (1916, Part 4)

John Maynard Keynes argued that consumers and companies could avoid such a "demurrage" by holding other assets with a liquidity premium (Keynes 1936, p. 221). However, it is noteworthy that most of these other liquid assets – "bank-money, debts at call" – can have a negative interest charged on them when cash (the most liquid form of money in Keynes's time) would no longer be setting the minimum for their yield requirements. As for precious metals, their value is quite speculative and cannot yield a steady and certain return forever, as they have price elasticity of supply in the longer run.[2128] The most effective (and harmful) way of avoiding demurrage (just like any form of negative interest rates) Keynes identified is the untaxed private ownership of land:

> "As I have mentioned above, there have been times when it was probably the craving for the ownership of land, independently of its yield, which served to keep up the rate of interest;– though under Gesell's system this possibility would have been eliminated by land nationalisation." (Keynes 1936, p. 221-222)

And that is one of the main reasons land value taxation is necessary for a fair and stable economic system, as explained in "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

Some argue that demurrage is more predictable and affects different holders of currency more evenly than inflation, as the prices of different goods might not rise at the same pace. And with a commodity or fiat money of inelastic supply, where inflation is presumably controlled by controlling the money supply – adding money into circulation and withdrawing it (and assuming the Quantity Theory of Money) – this concern for the unpredictability of inflation is understandable.[2129] However, with today's credit money system, where the central bank keeps the price level stable with its policy interest rate, inflation can be kept almost just as predictably at any 7 % as at 2 %.

Instead, demurrage involves notable administrative costs for all users, as they need to remember to regularly stamp any notes they happen to be holding and check the stamps of notes they receive. Although Keynes's arguments against demurrage are not very valid, the administrative costs make a steady inflation rate a superior alternative. A probably slightly less costly way to achieve demurrage would be a recurring lottery, where a tenth of notes were

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2127 Mankiw, N. Gregory, "It May Be Time for the Fed to Go Negative", The New York Times – Economic View, 19th Apr 2009, cited 22.12.2013, http://www.nytimes.com/2009/04/19/business/economy/19view.html

2128 See: "4.2.4.10 Other Limited Resources Such as Minerals".

2129 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

picked to be annulled by their serial number.[2130] But it would still require careful examination of serial numbers by all recipients of cash payments. And how frustrating and unfair would that feel when you ended up being the unlucky one on the bad side of the normal distribution with your fifty notes?

In an economy with no official cash (banknotes and coins), it is of course possible that some banks or other companies (such as credit card companies) start issuing carryable, anonymous means of payment, which would need to have a depreciation system on them. In such a situation, instead of having to stamp notes, it would be simpler that their value would be affected by their date of issue in addition to their face value, along a formula like the following:

$$ActualValue = \frac{FaceValue}{(1 + r)^{(CurrentDate - DateOfIssue)}}$$

where r is the annual depreciation rate and dates are in years. Calculating these devaluations using barcodes, QR codes or RFID need not be a complex process. The bigger challenge, as with any demurrage, comes with small change. Change in stores would likely have to be calculated and dispensed by a machine or demurrage on smaller units would need to be strongly quantized (e.g. by years or quarters) and merchants would always need to have "fresh" change at hand. Rechargeable "pre-paid" payment cards would likely beat such cash as the anonymous form of payment.

The argument that inflation distorts economic calculation remains valid, but this problem is minor with predictable inflation.[2131] And in developed countries, the cash transaction costs are already relatively so high that abolishing official cash seems to beat demurrage as well. More efficient demurrage "technologies" can of course be developed and applied to private cash systems.

2130 "Imagine that the Fed were to announce that, a year from today, it would pick a digit from zero to 9 out of a hat. All currency with a serial number ending in that digit would no longer be legal tender. Suddenly, the expected return to holding currency would become negative 10 percent." – Mankiw, N. Gregory, "It May Be Time for the Fed to Go Negative", The New York Times – Economic View, 19th Apr 2009, cited 22.12.2013, http://www.nytimes.com/2009/04/19/business/economy/19view.html?_r=0

2131 See: "4.2.4.13 Inflation Distorts Economic Decision Making".

Sidenote Box 4214A: Additional Reading on the Zero Lower Bound Issue

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- Rogoff, Kenneth S., 2014, "Costs and Benefits to Phasing Out Paper Currency", National Bureau of Economic Research, Working Paper 20126.

4.2.2 Setting a Fee on the Government Deposit Guarantee

In short:

- *Governments currently guarantee bank deposits for free, which allows banks to transfer their risks onto taxpayers by overleveraging themselves, as this does not raise their credit costs as it would for any other company.*
- *Imposing a fee on the deposit guarantee would allow a simple, market-based bank regulation system (that leaves room for innovation in risk management), remove the subsidy on unproductive saving, discourage excess (destabilizing) liquidity and deflate private debt bubbles.*
- *Although direct revenues from such a "tax" would not be massive, it further lowers the interest rates on government debt, increasing "inflation tax" revenues.*

"A deposit insurance system is like a nuclear power plant. If you build it without safety precautions, you know it's going to blow you off the face of the earth. And even if you do, you can't be sure it won't." – L. William Seidman, Chairman, FDIC

"We have moral hazards in our banking system. The U.S. government guarantees all bank deposits. Well, what does that mean? That means depositors don't care what the banks do with their money once they deposit it, because they know the government guarantees it." – Peter Schiff[2132]

"Pigouvian taxes are more efficient than quantitative limits in addressing air pollution externalities, and that lesson applies to financial pollution. By taxing run-prone liabilities, those liabilities can continue to exist where and if they are truly economically important. Issuers will economize on them endogenously rather than play endless cat-and-mouse games with regulators." – John H. Cochrane, Toward a Run-free Financial System (2014, p. 3)

As explained under "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking", banks should not be able to make risky investments with risk-free capital, but need to have shareholder equity and risk-bearing corporate credit to carry these risks. Least should they be allowed to leverage their investments so that risks are passed on to others. And currently they can do so because the government guarantees deposits for free and hence their credit costs don't rise with increased leverage – i.e. the Modigliani-Miller theorem[2133] does not apply for banks.

Large quantities of non-risk-bearing monetary assets – deposits and government bonds – in the market increase systemic risks by increasing leverage and risks not backed by private capital as well as keep others' debt unrepayable, as the credit is not spent back into the economy for debtors to earn it. As explained in "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks", such "investments" that don't carry business risks are not productive. What's productive and profitable for the bank is the free deposit guarantee: the government carrying a part of its business risks but taking none of the profits. Even if "deposits" are essentially "finance" for the bank, the depositor (account holder) is not financing the bank; the government is.

As explained in "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash", the zero lower bound is like a minimum wage of (unemployed) capital and the government deposit guarantee provided free of charge is a significant subsidy to capital. Although it only applies directly to deposits, it raises the profit requirements on other capital as well, as they all depend on the yield of this risk-free investment option[2134] similarly to how unemployment support puts pressure on raising all wages.[2135]

A government guarantee on deposits, however, is a very useful and valuable last resort, as no private financial institution could provide a trend-independently reliable insurance – and having no reliable deposit insurance would cause a lot of uncertainty in the market and runs on financial institutions (possibly due to simple, malicious

2132 13:39->, "Overdose: The Next Financial Crisis", documentary, cited 24.9.2013, http://www.youtube.com/watch?v=4ECi6WJpbzE

2133 See later in this chapter and in "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".

2134 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2135 See: "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics".

rumors or misunderstandings), causing unnecessary bankruptcies with huge externality costs. These make the economic system yet more unstable and vulnerable to harmful types of speculation.[2136]

The deposit insurance is essentially what makes the money on all banks' accounts the same currency with each other and cash. If deposits weren't guaranteed, bank A's money would not be worth the same as bank B's money – just like two companies' corporate bonds are valued differently according to their risk profiles. Sellers of products and services, including retail outlets, would have to price goods for the "currencies" of different banks. In practice, when trust in Greece to be able to guarantee its banks' deposits faltered during the euro crisis or when Cyprus was considering its one-off "tax" on bank deposits, Greek and Cypriot bank money stopped being the same euros with euros in other European banks. Understandably, the result was deposits starting to flee to banks in other countries.

However, risk has a cost and covering the risks of others for free is sure to cause abuse of this possibility. If, hypothetically, it were possible to provide a "perfect life insurance" that restored a person's life without notable, permanent physical or mental damage – like a "life" in Super Mario – and the government provided such an insurance for free, we'd surely have more people driving 300 km/h on freeways and doing other reckless things. If people themselves didn't see value in risky activities, employers would be encouraged to pay their employees for taking such risks (and hence imposing costs on such an insurance) instead of investing millions in work place security.

Similarly, the free guarantee on bank deposits, which the government now provides, encourages banks to leverage themselves excessively. Depositors don't mind the leverage as the guarantee passes the risks on to the government, and hence equally to all "taxpayers" regardless of with which bank they are banking. Historically, all kinds of publicly funded deposit insurance schemes have encouraged reckless banking and usually have eventually failed.[2137] (Thies & Gerlowski, 1989)

So we need a deposit insurance, but a free insurance is a harmful subsidy. The solution? Set a price on the insurance!

Such a fee or "tax" on guaranteed deposits would be a fair and efficient source of public income, b actually make the market (both the financial ma the real economy) work much better in many w tax could be implemented as a simple fixed-pe "insurance fee" on all guaranteed deposits; a before any possible capital income taxes.

Anyone could "circumvent" this "tax" legally by investing in the bank's corporate bonds if she was to carry her bank's (or any bank's) bankruptcy ris a risk premium lower than the "deposit tax" or "in fee" – or trusted a deposit insurance company to c risk on her behalf by granting her a cheaper insur her deposits.

Most importantly, this would make it very profit banks to remain transparent and solvent, as this give them access to cheaper credit finance – t bonds with lower yields – allowing bigger marg cheaper loans to their clients.

The ability to raise a set ratio of such risk-carrying (e.g. 50 % of held liquid deposits) with risk pre below this deposit insurance fee would be the requi for sufficient solvency and transparency for a ban bank were unable to raise enough credit finance enough premiums (or when the risk premiums yields of its outstanding bonds would rise abo deposit fee percentage), it would be required to raise shareholder equity until its bond yields drop, or it be filed bankrupt by the government: Shareholders lose their equity and its remaining assets and liab would be nationalized.[2138] In other words, deposits credit from the central bank – should never be allow be the cheapest form of finance for banks.

The risk premiums of 2-5 year corporate bonds te be in the range of 2-10 % depending on the comp business risk profile and its capital structure. Hence fee on the government guarantee on deposits sh probably be at least 3 %, as it would be very difficult bank to get bond investments below a 2 % risk prem even with high solvency.

Some big banks currently have quite low yields on t corporate bonds, but this is largely because of the imp expectation of a government bailout, as these ba are considered too important to fail. If the governm credible stated that all future "bailouts" would m nationalizing the bank's assets, few banks would man to sell bonds below a 2 % risk premium. The higher fee, the higher banks could leverage themselves a the more volatile investments they could make and s

2136 U.S. banks in the early 19th century, with no central bank as a lender of last resort, were ridden with repeated, devastating bank runs and crises.

2137 Lowenstein, Roger, "There's a Reason for Deposit Insurance", New York Times, 23rd Mar 2013, cited 18.8.2013, http://www.nytimes.com/2013/03/24/business/deposit-insurance-and-the-historical-reasons-for-it.html

2138 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financializat and Irresponsible Risks in Banking".

remain in the retail banking business. A 3 % fee would probably make proprietary trading[2139] for retail banks very limited, while a 5 % fee might still allow some investment banks with moderate leverage to operate government-guaranteed liquid deposit accounts.

As said earlier, the monetary unit to which credit contracts can be tied – a currency like the euro or the dollar – provided by the government is a valuable service to the economy.[2140] The promises to keep the inflation of this currency (the development of the price level in this unit, its purchasing power) stable and to guarantee deposits have value to members of the economy and it is fair that this service and the liquidity it provides should have a price charged for it.

In addition to reducing the leverage of banks, a fee on this liquidity would both reduce excessive, unproductive saving in general and drain excess liquidity, decreasing systemic risks and volatility of the whole economy.[2141] The author strongly hypothesizes that the free deposit insurance (with implicit bailout promises and other unnecessary subsidies) is the root cause of the reckless expansion of the financial sector, reduced transparency and increased harmful speculation.[2142]

Our current taxation system also encourages unnecessary leverage of other companies. One example of such an incentive is the "double taxation" of equity finance compared to credit finance: Dividends are not deductible from profits before corporate taxation, while interest costs for credit finance are, making them exempt from any corporate taxes. Companies avoid paying taxes by using a bigger proportion of debt finance – i.e. leveraging themselves further. In corporate finance, debt finance is often referred to as a "tax shield".[2143] This is the most significant imperfection that causes a company's capital structure to affect its enterprise value. Harold M. Somers (1991) was one to point out these "great leverage incentives" in our taxation system. Therefore, if company profits are taxed,[2144] it makes more sense to do this through solely a capital income tax or a "source tax" on dividends and interest – without any corporate tax – so that the all capital employed is taxed equally.[2145]

According to the Modigliani-Miller theorem a.k.a. the "capital structure irrelevance principle", in the absence this tax shield[2146] how a company is financed (most notably its debt-to-equity ratio) should not affect the valuation of its equity, i.e. the market price of its shares. The simple logic behind this is that, instead of the company taking on debt finance, the shareholders could leverage their equity investment equally by taking on debt themselves to buy more shares. What happens with non-bank corporations is that a higher debt-to-equity ratio raises both the profit requirements of the equity (as the variance of the value of equity increases) and the cost of credit for the company, as the creditors start carrying more and more of the company's bankruptcy risks and requiring a higher return for it. The resulting higher interest costs lower the total profits made on equity. Although the profits might still rise as a percentage of equity, the higher profit requirement (discounting interest rate) for the equity rises to offset this.

Eliminating double taxation of dividends would spread out business risks on a larger amount of equity capital, making the system handle shocks more robustly. The deposit guarantee fee would make this effect apply to banks as well. E.g. Nassim Nicholas Taleb (2012, p. 292-293) emphasizes how excessive leverage makes the whole system more fragile[2147].

Another factor that increases instability of the economy is excess liquidity. When there is a lot of credit that can be used to buy products and services immediately at any time, there is a much higher risk of hyperinflation – consumption increasing and people's desire to work for money decreasing suddenly – especially when combined with high levels of government debt.[2148] If a bigger share of credit is in bonds with a fixed maturity date in the future, aggregate demand for labor cannot jump (and supply of labor plummet) as abruptly.[2149] Finns, for example, have around 80 billion euros[2150] (~30% of GDP) lying on their deposit accounts, which is mostly completely unnecessary liquidity. Imposing a fee on liquid credit – government-

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2139 "Proprietary trading", definition, Financial Times Lexicon, cited 23.12.2013, http://lexicon.ft.com/term?term=proprietary-trading

2140 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

2141 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs" and "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".

2142 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

2143 "Understanding Capital Structure Theory: Modigliani and Miller", Q Finance, cited 19.2.2013, http://www.qfinance.com/balance-sheets-checklists/understanding-capital-structure-theory-modigliani-and-miller

2144 Which they probably need to be – see: "4.1.2.6 Avoidance through 'Entreployees'".

2145 See: "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".

2146 (...and bankruptcy costs, agency costs, asymmetric information and other minor imperfections)

2147 5:12-> & 6:59->, "Nassim Taleb Talks Antifragile, Libertarianism, and Capitalism's Genius for Failure", Reason TV, interview, viewed 22.3.2013, http://www.youtube.com/watch?v=ehXxoUH1AlM

2148 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

2149 See more on the destabilizing effects of quantitative easing in: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

2150 Eronen, Eeva, "Sulatatko sinäkin säästöjäsi pankkitilillä?" Taloussanomat, 22nd May 2012, cited 14.8.2013, http://www.taloussanomat.fi/raha/2012/05/22/sulatatko-sinakin-saastojasi-pankkitilillä/201229864/139

> backed deposits and cash – reduces unnecessary liquidity in the system without restricting the creation of more liquidity when it is actually needed.
>
> The fee on the deposit guarantee could hence also be seen as a "Pigovian tax" on the negative externalities caused by the excess liquidity and the leverage incentive for banks. John H. Cochrane has recently suggested a similar tax on deposits, though his arguments are built around the "run-prone" nature of liquid deposits (which should not be a problem with the deposit guarantee and the central bank acting as a "lender of last resort") instead of the leverage incentive.
>
> "I argue that Pigouvian taxes provide a better structure for controlling debt than capital ratios or intensive discretionary supervision, as in stress tests. For each dollar of run-prone short-term debt issued, the bank or other intermediary must pay, say, five cents tax. Pigouvian taxes are more efficient than quantitative limits in addressing air pollution externalities, and that lesson applies to financial pollution. By taxing run-prone liabilities, those liabilities can continue to exist where and if they are truly economically important. Issuers will economize on them endogenously rather than play endless cat-and-mouse games with regulators." (Cochrane 2014, p. 3)
>
> As implementing such a fee on the deposit guarantee is likely to decrease the amount of liquid deposits, the direct public revenues from such a fee are unlikely to be significant. If the amount of liquid deposits ended up being around a sixth of GDP,[2151] a 3 % deposit fee would only yield 0,5 % of GDP. However, as government bonds are just as risk-free as cash (in the case of countries with their sovereign currency – the only difference to cash is that they are non-liquid), this tax on deposits would also further lower the interest rates (yield) on government bonds, likely making them negative – i.e. a source of public revenue instead of an expense[2152] – in many situations.
>
> In the cases of countries without a sovereign currency, such a tax would of course require a consensus from all countries within the currency region (but so would facilitating negative interest rates in any way,[2153] which is a prerequisite for implementing such a fee). A deposit tax in e.g. one eurozone country would lead to people moving their money to banks in other European countries.[2154]
>
> Even with a sovereign currency, intuitively, one could expect deposits to flee to overseas banks. However, a bank cannot hold deposits in a currency (e.g. euros) without an account in the central bank issuing that currency (e.g. the ECB) for clearing transactions to other banks and for balancing any deposits in excess of outstanding loans. Without such an account, the only way to do this would be to hold physical cash, which would be impossible with a cashless currency[2155] and very costly in the case of a higher inflation target.[2156]
>
> Would it cause an exodus of savings deposits into other currencies? Probably yes – at least initially. And this increased demand of foreign monetary assets in our monetary assets would lead to the devaluation of our country's currency – which would increase our country's competitiveness over risk-bearing, productive capital through decreased labor costs, as explained in "3.5.3 The Advantage of the Possibility of Negative Interest Rates".
>
> **"One way to look at it is as a tax on holdings of money, ensuring that the only way to maintain wealth is to invest it at risk or, shall we say, to make wise decisions on how to direct the magical flow of human creativity. Certainly, this is an ability that deserves reward, and herein lies an essential missing piece of Marxist theories of value that ignore the entrepreneurial dimension to the allocation of capital." – Charles Eisenstein, Sacred Economics (2011)**

2151 Assuming e.g. that people and companies together held liquid buffers of 2 months' income on average.
2152 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".
2153 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
2154 The banks remaining in the taxed countries would have to borrow the central bank money needed for these transfers from other banks or the central bank itself, which is more expensive credit than the deposits would be. Such a competitive disadvantage would kill the local banking industry.
2155 See: "4.2.1.3 ...Or Just Eliminate Physical Cash (That Decreasingly Liquid and Necessary Rubbish)".
2156 See: "4.2.1.2 A Higher Inflation Target Leaves 'Room to Cut' by 'Taxing' Cash".

4.2.3 Other Benefits of Higher Inflation or Negative Nominal Interest Rates

4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt

In short:

- *Inflation practically "taxes" cash and all other direct government credit, which does not receive (nominal) interest according to market rates.*
- *More importantly, the possibility of negative deposit interest rates would lower the profit requirements of all government debt, turning the interest on public debt's into a source of revenue instead of a cost when market rates are low (as they should be currently).*
- *The negative interest on public debt could be increased somewhat through direct central bank funding (instead of "borrowing from the market"). However, to avoid the risks involved in such an increase in state-backed liquidity, it might be necessary to carefully and systematically "deleverage the government" – which would decrease total "inflation tax revenues".*

"Effectively, the fiscal channel is based on the government's substitution of the inflation tax (a tax with little or no deadweight loss in a deflationary environment) for direct taxes such as income taxes." – Ben Bernanke (et al 2004 p. 20)

Inflation is often described as a tax – perhaps most eagerly by the opponents of any "inflationary policies". That inflation is "robbing citizens" and "making everyone poorer" are arguments especially favored by gold standard advocates and anarcho-capitalists that oppose non-voluntary states altogether.[2157]

Firstly, predetermined and, hence, expected inflation[2158] is only "robbing" those with cash. Expected inflation is offset by higher nominal interest rates to those with deposits, bonds and other financial assets – and if not, this means lower interest costs to debtors ("cheaper loans to borrowers"). Secondly, isn't all taxation "robbing" citizens? Many Libertarians would say so. If the government wants to promote economic activity, doesn't it make more sense to tax ("rob" people for) holding on to credit (i.e. keeping others in debt[2159]) than transactions – the "movement" of money – which is a primary purpose of having any kind of monetary system at all?

As explained in "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources", the government has every right to tax the monetary system that it provides as a service – much more so than the services people provide for each other. It can be said to "own" the monetary system, but not its people's actions.[2160] As long as participants in the economy know the tax beforehand, there is nothing more deceitful about "an inflation tax" than about any other tax.

The government receives the tax as the reduced real value of national debt and as the central bank's "dividend payments": the margins that it has made on its loans and that it returns to the treasury.

When higher inflation is proposed as a way to increase "seigniorage income" to governments, it is often argued that the revenues would be quite low. And yes, the actual inflation tax can only tax cash and central bank reserves. Currently it only taxes cash, as since 2008 the FED has paid interest on its deposits to encourage banks to hold larger reserves.[2161] Of course, this tax could be increased by returning to strict reserve requirements and refusing to pay interest on the reserves, but that hardly is the best way to tax banking.

Even if the central bank did not pay interest on its deposits, the volume of the whole "base money" (cash and electronic central bank reserves) is relatively small: For example in the case of the U.S. in 2011, it was less than $3 trillion compared to a GDP of around $15 trillion. Of course, now there are excess reserves and with no reserve interest payments and e.g. a fixed 10 % reserve requirement for liquid deposits, the reserves would be closer to $1,5-2

2157 See: "4.2.4.11 Austrian and Fundamentalist Libertarian Arguments".

2158 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".
2159 See: "1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth".
2160 However, if the state subsidizes education, it could lay a claim on part of the competence capital of its citizens. See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources" and "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".
2161 See: "Sidenote Box 2252A: The Actual Policy Tools".

trillion. This means that even a 6 % inflation rate would yield less than $100 billion, which would be less than 1 % of GDP.[2162]

However, the negative interest rates on savings that the inflation – or elimination of cash – allows, similarly lowers the profit requirements of government bonds, making the government collect another kind of "inflation tax" as negative interest rates on all of its debts (when rates are lower). Or, more descriptively, we could say that the government stops paying a transfer payment to holders of risk-free credit, i.e. "unemployment support" for capital.[2163]

The revenues can be somewhat increased by the central bank buying government bonds directly – i.e. the government simply issuing more central bank money instead of selling bonds to the market[2164] – as this would remove the margins that banks and other private sector investors now charge for holding government debt. However, these margins should not be significant in any case, as long as the government has its sovereign currency (which makes bonds almost just as safe as deposits, just less liquid) or its solvency is ensured with a more trend-independent taxation system.[2165]

If all government bonds were replaced with central bank money (and increased liquid deposits for bonds not held by retail banks) immediately, such a level of liquid public credit on the market would be likely to increase instability and the risks of hyperinflation.[2166] [2167] Therefore, if such a transition to "full direct central bank finance" – doing the "quantitative easing" all the way – was to be done, the government would also have to be "deleveraged", i.e. its amount of debt reduced, and this would need to happen gradually. The government budget surpluses to do this would be made possible by increased spending off of private financial savings as a result of the possible negative real interest rates and a trend-independent taxation system based on land taxation.

Thirdly, the possibility of negative real interest rates would also allow charging for the government guarantee on risk-free bank deposits. This would further lower the yield on deposits relative to bank prime lending rates, further lowering the rates on all government debt. This would of course have to be done on the level of the whole currency area, as discussed in next chapter "4.2.2 Setting a Fee on the Government Deposit Guarantee".

National debt has exceeded GDP in the U.S a long time ago and is approaching this 100 % mark in many other Western countries as well. If the rates on government debts could be lowered by 4 percentage-points, this would mean an around 10 % decrease in the other taxes currently needed to cover a government budget of around 40 % of GDP.

One of the most "handy" properties of an "inflation tax" is how it *complements* "traditional" transaction taxes. Interest rates for government debts (including central bank money) will be lower when the economy is growing more slowly or declining, giving a higher inflation tax yield. When the economy is growing faster and higher interest rates reduce negative inflation tax yields, transaction taxes[2168] give the government more revenue.

Lastly, let's remind ourselves that the inflation tax revenues are not the main argument for higher inflation, but rather a nice, budget balancing, additional bonus. The main reason we need a higher target inflation rate is to facilitate negative real interest rates in order to allow monetary policy to keep the supply and demand in balance regardless of how much the economy grows and how much real investments are needed.[2169]

4.2.3.2 Underground Market and Grey Economy Mitigation

"The only domestic beneficiaries from the existence of anonymity-providing currency are the criminal fraternity: those engaged in tax evasion and money laundering, and those wishing to store the proceeds from crime and the means to commit further crimes." – Willem Buiter[2170]

"There is nothing, however, in standard theories of money that requires transactions to be anonymous from tax- or law-enforcement

2162 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2163 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

2164 The common expression, "printing money", is quite misleading as no new cash is necessarily created. But yes, this too is "creating money" – liquid government-backed debt.

2165 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

2166 Lilico, Andrew, 2012, "ECB's bond buying bailout bluff is not tricking Germany", City A.M., cited 2.12.2012 http://www.cityam.com/forum/ecb-s-bond-buying-bailout-bluff-not-tricking-germany

2167 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

2168 ...which should of course be minimized, but e.g. the incentives to share work, see: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

2169 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

2170 Buiter, Willem, "Negative interest rates: when are they coming to a central bank near you?" Financial Times blog, Maverecon, 7th May 2009, cited 6.6.2014, http://blogs.ft.com/maverecon/2009/05/negative-interest-rates-when-are-they-coming-to-a-central-bank-near-you/

authorities. And yet there is a significant body of evidence that a large percentage of currency in most countries, generally well over 50%, is used precisely to hide transactions." – Kenneth Rogoff, Costs and Benefits to Phasing Out Paper Currency (2014, p. 3)

As cash is becoming less and less liquid compared to electronic transactions, its biggest added value starts being in organized crime, (e.g. drug cartels) and tax evasion. Also dictatorships that are unable to create their own reliable monetary systems often rely on the cash of foreign currencies ("dollarization"). Such foreign (or underground) demand for a currency leaves more "unpayable" debt in the home country (or the "legitimate economy") and appreciates the currency, reducing competitiveness over productive capital.[2171]

Eliminating cash or imposing a bigger cost on holding it through higher inflation would hurt such criminal operations. Together with decreased transaction taxes, a lower return on cash could significantly reduce such "underground" grey economy. (For tax evasion in alternative "cryptocurrencies" like bitcoin, see: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral").

4.2.3.3 Wage Elasticity with Nominal Rigidities

In theory, stable inflation should have no impact on how wages or relative prices of products and services are determined: Supply and demand between different resources operate just like before; only the purchasing power of the unit used for comparison changes. But in practice, people object much more strongly to nominal wage reductions than raises being left below the price index. (Holden & Wulfsberg 2007) In his book "The Accidental Theorist" Paul Krugman (1999) notes that, as a result of this "wage stickiness", low inflation allows little room for adjustment in relative wages, causing supply and demand imbalances and thus more persistent unemployment. However, this wage-raise-pressure-reducing effect of inflation is decreased when inflation is high (Holden 2012, p. 12). Also, this wage elasticity benefit does not apply to the alternative where cash is eliminated[2172] to facilitate negative interest rates nominally.

Yet more importantly than local structural imbalances, higher inflation would also help correct trade imbalances *between countries* within a monetary union, such as the eurozone or countries with otherwise fixed exchange rates. It has been suggested that a higher inflation (rise in wages) in more competitive areas of the EMU, such as Germany, could help the South European economies restore their competitiveness and thus also, eventually, allow balancing their government budgets. However, if the ECB still kept its objective of keeping overall eurozone inflation below 2 %, this would make the process very slow (assuming strong nominal wage rigidities) or (assuming no wage rigidities) require harmful local deflation in the currently uncompetitive countries. As explained in "3.1.6.2 Sticky Trade Imbalances", if the target inflation rate were higher, indebted countries could restore their competitiveness without the need for dramatic nominal wage reductions.

4.2.3.4 Preventing Hoarding by Foreign Investors and Central Banks

This advantage of how the possibilities of lower rates (on bonds and deposits) would likely have a currency-devaluing effect and hence be price-competitiveness-enhancing was discussed under "3.5.3 The Advantage of the Possibility of Negative Interest Rates".

4.2.3.5 More Long-Term-Oriented Investment and Company Management

In short:

- *One factor making companies and investors very short-term-oriented are high discount rates maintained by the ZLB. Eliminating the ZLB can increase long-term-orientation – though likely not enough to eliminate e.g. the need for regulatory protection of biodiversity.*

"Which puts more pressure on the environment, a high or a low discount rate? The usual answer is that a high discount rate is worse for the environment because it speeds the rate of depletion of nonrenewable resources and shortens the turnover and fallow periods in the exploitation of renewables. It shifts the allocation of capital and labor toward projects that exploit natural resources more intensively." – Clifford Cobb, Herman Daly Festschrift, Chapter 13

2171 See: "3.1.6.3 The U.S. Case – Chronic Overvaluation of the Global Reserve Currency".
2172 See: "4.2.1.3 ...Or Just Eliminate Physical Cash (That Decreasingly Liquid and Necessary Rubbish)".

Ecological and Georgist Economic Principles: A Comparison

Let's remind ourselves that the fact that negative interest rates are made possible does not mean that interest rates will always be negative or low. The *possibility* of negative interest rates and mitigating long-term income insecurity[2173] are likely to decrease people's propensity to save, which is likely to both (1) raise returns needed to entice people to save (their personal discount rate[2174]) and (2) increase expected future consumption, making more profitable real investment opportunities available. Both of these would raise the balance interest rate (the rate at which inflation is kept stable).[2175] Getting rid of the *dependence* on growth is also the best way to facilitate desired growth.[2176]

On the other hand, setting a price on the government guarantee of deposits[2177] makes the interest rates on deposits lower relative to lending rates, and reducing wage regulation[2178] and making welfare bumming less tempting[2179] are likely to lower the balance interest rate as well.

One things which is often criticized about capitalism is the short-term-orientation that is characteristic to it – especially to investors and the companies (competing organizational forms[2180]) that aim to maximize the returns for those investors. As explained in, "1.1.8 Labor and Capital (and Land?) – The Factors of Production", a rational investor aims at maximizing the *present value* of his investments. An this present value is calculated by summing up the income streams the investment is expected to generate discounted by its discounting interest rate, i.e. its profit requirement. The higher the discounting interest rate, the lower the present value of future income compared to current income. The profit requirement is determined by the risk-free investment option (guaranteed bank deposits) and the specific investment's risk premium. And when interest rates are always kept at least at zero, the discounting interest rates of investments tend to be high, and, as a result, the real productive (and hence income generation) capacity of assets in the distant future has hardly any present value – it is largely ignored in profitability calculations. For example, a 7 % discounting interest rate means that revenues in 20 years' time only have about 26 % of the present value of similar revenues this year. With a discount rate of 15 %, the present value of revenues in 20 years is only 6 % of similar revenues this year.[2181]

However, the profit requirement of an investment – its discounting interest rate – can be negative as well! This occurs when a person's time preference is negative, i.e. he values future benefits more than current ones – and sufficiently negative to offset the investment's risk premium. If we allowed negative market interest rates, this would allow future revenues to have significant present value when people themselves are not impatient – i.e. when they are also concerned for their future. This would also make companies – which aim to maximize their own present value – more concerned with preserving the long-term value of their assets, making them somewhat more "sustainability-oriented."

Nevertheless, in higher-risk industries and projects, profit requirements will always be quite high and hence environmental sustainability issues should not be left on the responsibility of present value maximizing companies. All activities causing permanent damage to irreplaceable natural assets should simply be banned or penalized sufficiently to make getting caught a risk not worth taking.[2182] Purely in terms of economic payback, potential revenues far off in the future *should* understandably have little impact on most current investment decisions, as the future revenues – which depend e.g. on future demand and the development of competing technologies – is often impossible to predict. There will likely be demand for food and electricity in 30 years, but on a more detailed level, it is hard to know exactly how people's consumption (and work) preferences and our technological capabilities will evolve and hence what resources will then be most valuable. In this sense, short-term orientation is not always a sin! Not even in one's personal life. Leaving the best sweets in a candy bag to eat last might be a stupid decision, as by the time one gets to them, one might not have the appetite for them anymore.

2173 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

2174 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2175 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2176 See: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

2177 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2178 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility" and "2.2.3.3 Wage Regulation by the Government – All or Nothing".

2179 (by restricing the financial freedom of social support, see: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free")

2180 See: "1.1.9 Companies as Competing Organizational Forms".

2181 $1/1.07^{20} \approx 0.258$; $1/1.15^{20} \approx 0.061$

2182 See: "3.4 Environmental Sustainability".

4.2.3.6 A Balancing Effect on Current Account Balances and Other Credit Relations

As discussed in "3.3.1 Solving Poverty for Good – Ending the Economy War", one factor sustaining poverty and international current account imbalances is that when little local capital accumulates in developing countries and most local production is financed through foreign direct investment (FDI) and also the government owes oversees, most factor income (dividends and interest) flow out of the national economy. This further prevents local capital from accumulating: Despite possible trade surpluses, the current account balance remains negative, resulting in a vicious circle of indebtedness and poverty. This of course suits perfectly the neo-colonialist agendas of rich countries that want to keep getting natural resources from these countries affordably.

When the interest rates on bank deposits (i.e. the return on the risk-free investment option) are lower, this also lowers the interest rates on government bonds, alleviating interest burden on poor governments with foreign debt, and also reduces the profit requirements of foreign direct investment. This makes it easier for developing countries to deal with their debts and accumulate local capital for investments and thereby slowly redirect factor income to their own citizens as well. This would facilitate faster economic growth in developing countries – especially when developed economies are stagnating, as that is when interest rates are lowest.

4.2.4 Common Concerns with and Objections to Negative Rates or Higher Inflation

The subchapters here deal with common objections raised against inflation, many of which don't apply to a higher stable inflation in a monetary system mostly running on electronic money. However, some arguments remain valid nuisances. It is important to remember that cash is the only reason we'd need a higher target inflation rate. In technologically advanced economies, like the Nordic countries, where cash is already mostly redundant and most transactions are electronic, it will soon be a feasible option to eliminate cash, in which case negative interest rates can be implemented nominally and even a zero inflation target can be adopted[2183] (which would be a better option, most notably because "4.2.4.13 Inflation Distorts Economic Decision Making").

4.2.4.1 Problems with Unstable and Unpredictable Inflation

In short:

- *Sudden, unstable and unpredictable inflation is very damaging for an economy, but this is no reason to conclude that a steadily inflationary currency would be so. Steady inflation – in today's economy where electronic money is the most liquid form of money – can be compensated with nominal interest rates and does not increase uncertainty or cause unfair wealth transfers.*

> "People will be quite as reluctant to borrow or incur debts in a currency expected to appreciate as they will hesitate to lend in a currency expected to depreciate. The convenience of use is decidedly in favour of a currency which can be expected to retain an approximately stable value. If governments and other issuers of money have to compete in inducing people to hold their money, and make long-term contracts in it, they will have to create confidence in its long-run stability." – Friedrich A. Hayek, Choice in Currency: A Way to Stop Inflation (1976, p. 20)

> "Inflation is costly. When it is unanticipated, it arbitrarily benefits debtors and hurts creditors by decreasing the nominal value of outstanding debt. It discourages saving and investment by creating uncertainty about future prices. And, it forces businesses and individuals to spend time and resources predicting future prices and hedging against the risk of unexpected changes in the price level." – Roberto M. Billi and George A. Kahn, What is the optimal inflation rate? (2008, p. 7)

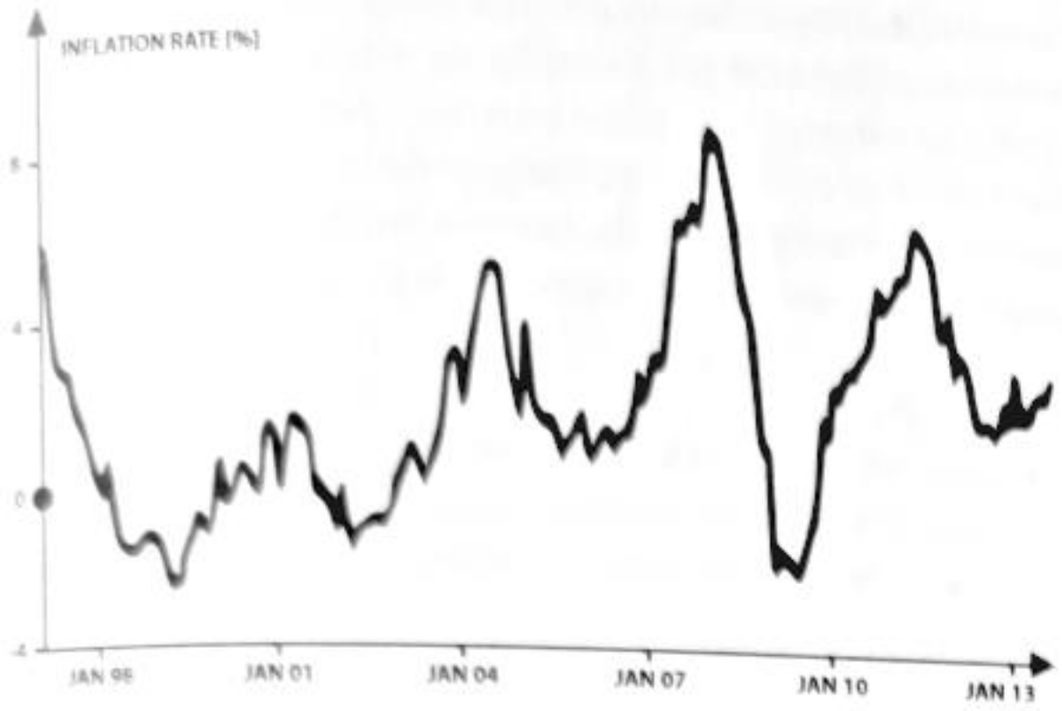
> "Having the central bank embrace inflation would shock economists and Fed watchers who view price stability as the foremost goal of monetary policy. But there are worse things than inflation. And guess what? We have them today. A little more inflation might be preferable to rising unemployment or a series of fiscal measures that pile on debt bequeathed to future generations." – N. Gregory Mankiw[2184]

In many branches of mainstream economics, inflation is considered the biggest threat of all. Most concerns with inflation are, however, relevant only for *unstable* and *unpredictable* inflation or hyperinflation.

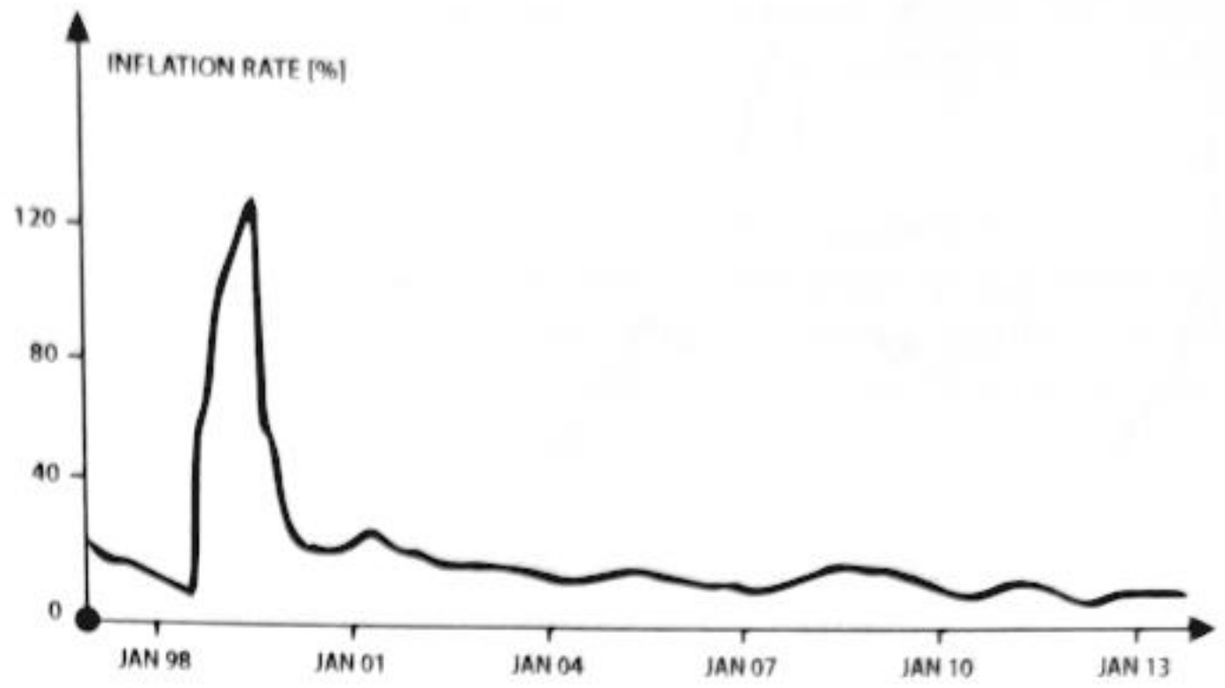
Volatile inflation and unpredictable inflation and deflation are very valid concerns: Any sudden shift in the price level is an immediate, irreversible wealth transfer between creditors and debtors. E.g. a 5 % drop in prices within a month is equivalent to an 80 % positive interest on the annual level. They increase risks beyond the risks of the real economy making it more difficult to plan productive activity and increasing both the risk premiums of credit and the profit requirements of other investments. It is not a good situation where people are neither willing to take on debt nor save due to uncertainty of how much their savings will buy them in the future and how much they will need to work to pay off their debts.

2183 See: "4.2.1.3 ...Or Just Eliminate Physical Cash (That Decreasingly Liquid and Necessary Rubbish)".

2184 Mankiw, N. Gregory, "It May Be Time for the Fed to Go Negative", The New York Times – Economic View, 19th Apr 2009, cited 22.12.2013, http://www.nytimes.com/2009/04/19/business/economy/19view.html?_r=0



GRAPH 39: INFLATION IN CHINA.[2181]



GRAPH 40: INFLATION IN RUSSIA.[2182]

Unpredictable and volatile inflation are equivalent to credit risks, and hyperinflation is equivalent to a system wide credit default, whereas a higher, stable, predetermined inflation rate is essentially a negative interest rate, which can be compensated with nominal interest rates.

By projecting the same arguments against all kinds of inflation – and trying to preserve the ZLB – inflation-phobic economists and investors are biting their own ankle in the long run. As long as we keep the target inflation rate close to zero and keep money and government bonds as safe havens for saver-investors, this will only cause more and more debt and money to pile up – the financial sector to expand – and increase the risks of hyperinflation.[2185]

4.2.4.2 'Higher Inflation Has Never Been Stable'

In short:

- ***A higher target inflation rate has not been attempted in the Western world with the current central banking system. There is no reason why a 6 % target should be significantly harder to maintain than a 2 % target.***
- ***The increased "room to cut" interest rates should rather increase the central bank's ability to keep inflation stable, removing speculations over deflation.***

To the argument that most of the challenges of inflation don't apply to higher steady inflation, critics reply that high inflation is inevitably unstable. However, this assumption is based on the historical observation that higher inflation usually hasn't been stable. The observation that X *has never been* Y is not a valid ground for making the conclusion that X *cannot be* Y.[2186] Higher steady inflation has not been attempted in the Western world with the current monetary system with an independent central bank and thus it has always been accidental – part of a volatile state. Low inflation hasn't been stable before this system either. There is no reason why it should be significantly harder for the central bank to keep inflation stable at e.g. 6 or 10 %, than 2 %.

Russia and China can be considered examples of countries with very volatile inflation. However, the data from these countries does not suggest that inflation would be more stable when it is lower. These countries have managed to stabilize their inflation from very high temporary surges multiple times, but even low inflation has been very volatile.

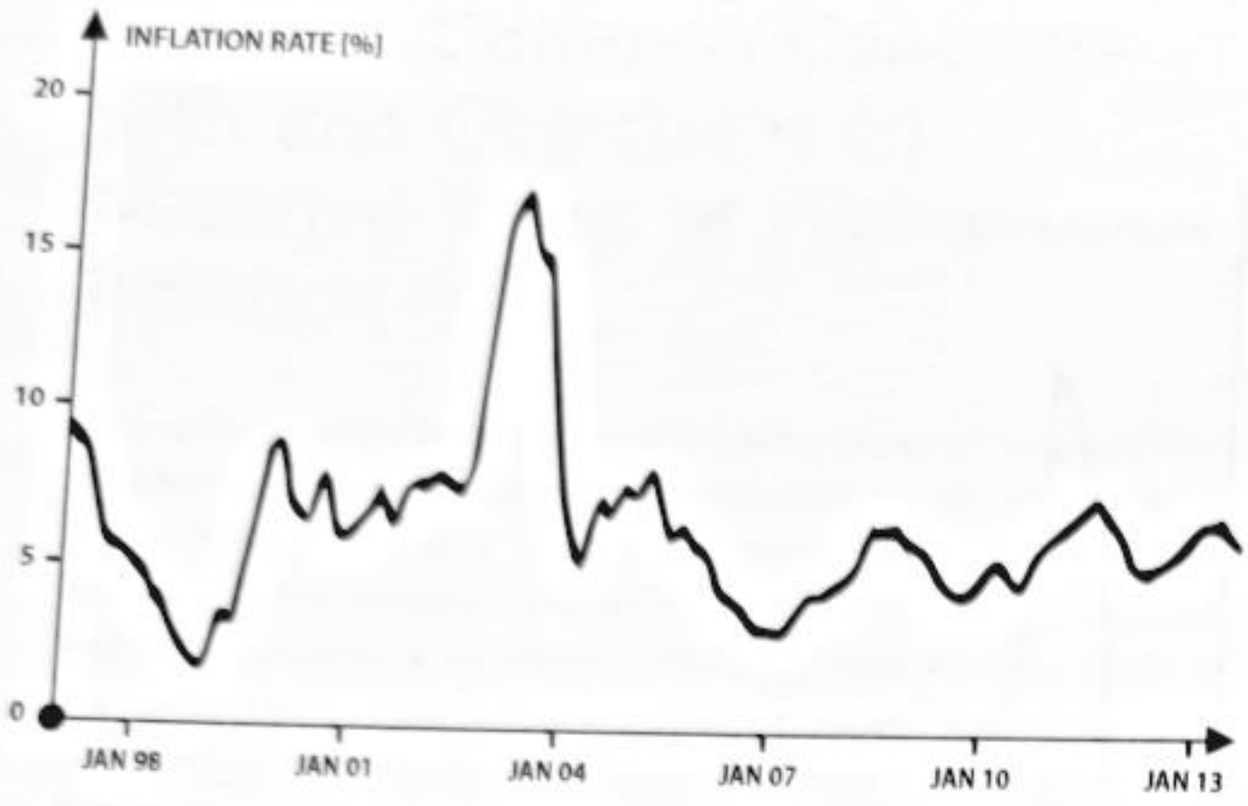
The main obstacles to real investments in these countries are completely other kinds of uncertainty – their governments' unpredictable amount of respect for private property as one example.

2185 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

2186 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

2187 "China – Inflation", Trading Economics, cited 24.6.2013, http://www.tradingeconomics.com/china/inflation-cpi

2188 "Russia – Inflation", Trading Economics, cited 24.6.2013, http://www.tradingeconomics.com/russia/inflation-cpi



GRAPH 41: INFLATION IN BRAZIL.[2183]

For example, Brazil has been somewhat more successful at keeping its inflation rate stable since 1996 despite a higher target, which e.g. in 2013 was at 6.5 %.

If wages start getting out of hand due to demand growing faster than people's willingness or capacity to produce (the supply of labor), then this can be balanced the same way monetary policies do it now: by raising interest rates.[2190]

The chief economist for the International Monetary Fund, Olivier Blanchard was one to commit near academic and political suicide in 2010 by suggesting that Western economies should accept a 4 % inflation level. (Blanchard et al 2010) The suggestion received immediate and wide criticism with John Taylor warning that such inflation would be likely to get out of hand easily.

The president of the European Central Bank, Jean-Claude Trichet predicted that even raising the inflation target by one percentage point would "bring a serious increase in all market interest rates", as *expected inflation* would increase drastically.[2191] This suggests that Trichet fears the market would not trust inflation to be as stable at this new target as at the lower one or that the market would constantly be speculating on further raises in the target interest rate.

The latter problem of speculating on future changes could be overcome by making a clear plan of (gradually but decisively) raising the target interest rate to a level allowing sufficient room for interest rate adjustments even in a long-term decline. For example the target rate could be raised by one percentage point every 6 or 12 months until it reaches 6 %. John Taylor of Stanford University replied to Blanchard's suggestion with the question, "Why 4 percent, why not jump right to 5 or 6 percent?" Der Spiegel considered this to be sarcasm, implicitly seconding Taylor's fear of inflation getting out of control. This might be a correct interpretation, but we could also take it as a very good improvement suggestion.

Also Ben Bernanke, who in 1999 (when not yet FED chairman) was strongly suggesting that the Bank of Japan should raise its inflation target to 3-4 %,[2192] is now defending the FED's policy of sticking to the current target, as raising it might endanger the "anchored inflation expectations" and hence the FED's credibility and the effectiveness of its monetary policy:

> "The public's understanding of the Federal Reserve's commitment to price stability helps to anchor inflation expectations and enhances the effectiveness of monetary policy, thereby contributing to stability in both prices and economic activity. Indeed, the longer-run inflation expectations of households and businesses have remained very stable over recent years. The Federal Reserve has not followed the suggestion of some that it pursue a monetary policy strategy aimed at pushing up longer-run inflation expectations. In theory, such an approach could reduce real interest rates and so stimulate spending and output. However, that theoretical argument ignores the risk that such a policy could cause the public to lose confidence in the central bank's willingness to resist further upward shifts in inflation, and so undermine the effectiveness of monetary policy going forward. The anchoring of inflation expectations is a hard-won success that has been achieved over the course of three decades, and this stability cannot be taken for granted. Therefore, the Federal Reserve's policy actions as well as its communications have

2189 "Brazil – Inflation", Trading Economics, cited 24.6.2013, http://www.tradingeconomics.com/brazil/inflation-cpi

2190 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

2191 Pauly, Christoph & Steingart, Gabor, "IMF Musings: Can Higher Inflation Be a Good Thing", Der Spiegel, 23rd Feb 2010, cited 15.1.2013, http://www.spiegel.de/international/business/imf-musings-can-higher-inflation-be-a-good-thing-a-679593.html

2192 "With respect to the issue of inflation targets and BOJ credibility, I do not see how credibility can be harmed by straighttorward and honest dialogue of policymakers with the public. In stating an inflation target of, say, 3-4%, the BOJ would be giving the public information about its objectives, and hence the direction in which it will attempt to move the economy. (And, as I will argue, the Bank does have tools to move the economy.) But if BOJ officials feel that, for technical reasons, when and whether they will attain the announced target is uncertain, they could explain those points to the public as well. Better that the public knows that the BOJ is doing all it can to reflate the economy, and that it understands why the Bank is taking the actions it does. The alternative is that the private sector be left to its doubts about the willingness or competence of the BOJ to help the macroeconomic situation." (Bernanke 1999, p. 17-18)...
"To this outsider, at least, Japanese monetary policy seems paralyzed, with a paralysis that is largely self-induced. Most striking is the apparent unwillingness of the monetary authorities to experiment, to try anything that isn't absolutely guaranteed to work. Perhaps it's time for some Rooseveltian resolve in Japan." (Bernanke 1999, p. 25-26)

> been aimed at keeping inflation expectations firmly anchored."[2193]

The value of "anchored expectations" and concerns for "further upward shifts in inflation" are valid arguments.

The obvious solution? Raise the target inflation rate so much that the room to cut is sufficient to avoid the need for any speculation over future target rates – and anchor inflation expectations there! (Or eliminate cash.)

It should also be noted that Blanchard's suggestion still assumes the objective to be steady growth and the purpose of monetary policy to correct any "output gaps" – the difference between actual GDP and potential GDP (the amount of production with full full-time employment). An idea of growth independence[2194] is not even considered. If the "steady state" – the consumption level desired by consumers in the absence of uncertainty and significant labor market imbalances – is not one of constant growth, but of e.g. a steady rate of real economic activity or even a moderate decline, then the real interest rates would need to be lower in this steady state already, even in the absence of (demand, supply or technology) shocks, as there is excess capacity and few new investment opportunities. Therefore additional room is needed to provide adaptability in the case of shocks. This suggests that the target inflation rate would probably need to be at least 6 %.[2195]

As for market interest rates rising, this clearly implies a risk premium and therefore applies to all lending rates, both for loans given by banks and private investors lending to the government. Blanchard suggests that investors can protect themselves from such fluctuations with indexed (inflation protected) bonds. However, even if these measures failed to keep the interest rates on loans – borrowing costs – down, there is no reason why the interest rates on risk-free bank deposits should rise above the central bank interest rates, as the main reason banks compete over deposits is that deposits are a cheaper form of finance than loans from other banks or the central bank. And because the higher yield on loans is due to a higher risk, this does not make saving more profitable. So if Trichet's prediction is true – and if Blanchard's suggested indexed bonds fail – the result is that borrowing might, at least temporarily, be made more expensive, but saving as monetary assets could still be made less profitable by turning real interest rates on deposits negative. Isn't this the optimal outcome when the objective is to get the economy running again without increasing leverage and debt burdens further – when we want to increase spending and investing of savings without encouraging more reckless borrowing, i.e. increase money velocity while deleveraging the economy of excess debts and downsizing the financial sector?[2196]

As another reply to Blanchard's suggestion, German Federal Bank President Otmar Emminger was quoted to have said: "If you flirt with inflation, you end up marrying it." Also other critics of inflation say that high inflation is very "sticky" as it turns into "built-in" inflation[2197] and can only be lowered by a recession. Yes, the competition for labor cannot be very tough if wages are expected to remain moderate in an unrestricted labor market, but a drop in the demand for *labor* results in a harmful "recession" only in a situation where the drop results in cyclical unemployment – a situation where supply does not meet demand in the mid-term.[2198] If sharing work was made so profitable that we always had competition over *employees* regardless of the demand for labor,[2199] a drop in total demand would just result in more free time, i.e. more "spare room for work" in many employees' working capacity.

So our reply to Emminger would be: "Better start planning the honeymoon!"

4.2.4.3 How Could Higher Inflation Be Sustained?

In short:

- ***Sustaining a higher inflation rate does not require e.g. constant fiscal stimuli, as inflation easily becomes "built into" expectations.***

> **"If you flirt with inflation, you end up marrying it." – Otmar Emminger**

> **"Now some will argue that because of the zero lower bound central banks lack sufficient policy traction to raise inflation. I don't believe that. Over the course of the recovery the Fed, for example, has become alarmed by falling**

2193 Reddy, Sudeep, "Sen. Vitter Presents End-of-Term Exam For Bernanke", Wall Street Journal, 17th Dec 2009, cited 1.7.2013, http://blogs.wsj.com/economics/2009/12/17/sen-vitter-presents-end-of-term-exam-for-bernanke/

2194 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and "3.1.2 Other Scapegoats for the Mystical Growth Dependence".

2195 See: "4.2.1.2 A Higher Inflation Target Leaves 'Room to Cut' by 'Taxing' Cash".

2196 See: "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing".

2197 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2198 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

2199 See: "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs".

> inflation expectations on several occasions, and when it subsequently took action inflation expectations rose. That they have never risen much above 2% at any point in the recovery can probably be attributed to pretty clear signals from the Fed that higher inflation would not be welcome." – Ryan Avent[2200]

Then some critics ask how one could maintain inflation at such a high level? You might get inflation up by an intense burst of fiscal stimulus by the government, but wouldn't you have to maintain the stimulus if you wanted the inflation to persist? This is a common reply from Post-Keynesians who really like to underestimate the risks of hyperinflation and the self-reinforcing mechanisms of inflation in general.

As mentioned before, inflation has had a tendency to get out of hand easily if not carefully controlled. This is because inflation expectations spur more inflation: Some companies raise prices in advance to avoid losses and employees start demanding higher wages. The potential losses of the value of savings further decrease people's willingness to work and makes them spend and invest sooner.

The argument that inflation is hard to sustain is quite contradictory with the earlier argument that higher inflation could not be kept in check – or gotten rid of. On the contrary, the concepts of *built-in inflation*[2201] and "adaptive expectations" predict that inflation is hard to get rid of! To requote Otmar Emminger: "If you flirt with inflation, you end up marrying it."

When higher inflation is the result of a predetermined higher target rate, it can be controlled with interest rates. The main argument for a higher target inflation rate is that it would allow negative real interest rates and thus make it *easier* to keep inflation in balance with the policy interest rate even in an economic decline – without any unconventional market operations[2202] that increase harmful speculation on the market. And as a final resort, there is fiscal stimulus: increased government spending.

But this does not have to be a constant fiscal stimulus. A single "kick" not countered by central bank interest rates (or expectations of it doing so), tightening competition for labor should be enough.

And because the above kinds of tools exist and because inflation expectations have the tendency to increase inflationary pressures, it would probably be enough for the government *to announce* that the central bank target inflation rate would be raised e.g. by 1 percentage point per 6 months to e.g. 6 %. It is possible that the central bank might even have to *raise* interest rates to prevent this announcement from causing inflation to rise too fast, as the mere possibility of more negative real interest rates make money and bonds less profitable investment options and savings would be rather directed at real assets, free time (working less now) or additional spending.

4.2.4.4 Menu Costs

In short:

- ***A 5-10 % inflation rate would not require much more frequent adjustments of prices than are currently done by companies.***

This refers to the practical costs of companies constantly having to adjust the pricing of their products, service and wages to keep up with the inflation. This cost however, is much more significant with unpredictable inflation. With predictable inflation, the change can be anticipated and the raises either coincided with the rise in suppliers' prices or evened out so that average margins remain at profitable levels. For example in retail, there is seldom need to change pricing in smaller increments than 5 %. Keeping up with even a 10 % inflation rate would hardly require more than one price change per year. Price fluctuation due to the costs of individual goods and periodical campaigns already cause changes more often than this.

Even if prices did need to change in some industry more often than before, the costs of this are trivial compared to e.g. the costs of accounting for regular transaction taxes – not to even mention those of incremental tax rate changes and new exemptions and exceptions made as a result of compromise politics and as gimmicks trying to increase total demand to boost employment (such as the VAT raises from 22 % to 23 % to 24 % in Finland within a few years).

4.2.4.5 Shoe Leather Costs

In short:

- ***Investors should be constantly searching for better retainers of value than cash and bank account deposits, which are not productive forms of capital.***

Then there are "shoe leather costs", which refer to the costs of attempting to minimize cash reserves by "running

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2200 Avent, Ryan, "The solution that cannot be named", The Economist, Nov 17th 2013, cited 6.6.2014, http://www.economist.com/blogs/freeexchange/2013/11/secular-stagnation

2201 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2202 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

around" looking for better retainers of value. The metaphor refers to the wearing out of the leather on shoe soles from this kind of "running".

In the case where cash and deposits have become a tempting and relatively profitable safe haven and is thus slowing down other investments, this argument more supports than opposes the idea of negative interest rates. Anyone who wishes to transfer her purchasing power into the future has to try to find some productive investment target that retains that market value. If one does not have any profitable investment opportunities in mind, one should not save up excess reserves – or one should be ready to bear the possible costs resulting from excessive saving. On the level of the whole economy, it is more sustainable to achieve economic security by ensuring that people always have a way to make their living than keeping it profitable for them to keep others in debt against their will.[2203]

The other option that an individual has, is to buy something that he knows he himself will always value regardless of what the market thinks.

4.2.4.6 The Friedman Rule for Optimal Inflation

In short:

- *The Friedman Rule assumes that cash is the most liquid form of money and therefore holding it should not be penalized if ease of trade is to be maximized. Today, electronic money is much more liquid and all of it can earn interest, compensating for any predetermined inflation.*

> "We can live Milton Friedman's (1969) optimal quantity of money, in which the economy is awash in liquidity. This optimal quantity will have financial stability benefit far beyond its traditional elimination of shoe-leather costs. Again, technology has fundamentally changed the game: instant communication means that interest-paying money is now a reality, so we can have the optimal quantity without deflation."
> – John H. Cochrane, "Toward a Run-free Financial System" (2014, p. 4)

Milton Friedman, following the idea of "shoe leather costs", based his guideline for an optimal target inflation rate – "The Friedman Rule" – on the idea that there should be no opportunity cost in holding on to cash higher than the government's cost of producing more cash (which he assumes to be practically zero). The logic is that, as cash is the most convenient and broadly accepted means of payment, it is not "socially optimal" that people would have to economize on their cash reserves.

But as electronic forms of payment (credit cards, internet banking transfers, cell phone payments etc.) become more convenient and widely available, the use of cash is becoming exceedingly rare and relatively costly. These technological developments are one factor eroding the basis of Friedman's argument. The inflation effect on bank deposits is directly offset by interest rates paid on them and therefore the opportunity cost of having bank deposits is not increased by higher, stable inflation.

The other half of the argument are stagnating economic growth rates and a chronic oversupply of capital, which would require negative interest rates in developed economies. If we are in a credit crisis and an economic recession because people are saving too much money instead of spending or investing (or, by working less, giving the earning opportunities to others who are more willing to spend), doesn't this imply that we *need* there to be a higher cost to holding all kinds of risk-free credit?

The Friedman Rule suggests that this negative real interest in such a situation should be achieved with inflation – just as it suggests that the interest on money and government bonds in a growth situation should be achieved mostly through deflation. In theory, this of course would be one option – close to the market monetarist suggestion of nominal GDP targeting.[2204] But this would make inflation rates less predictable and harder to control with interest rates. As Ben Bernanke notes, the "anchoring of inflation expectations" is very useful.[2205]

When interest paid on liquid checking accounts prevents inflation from causing excessive costs on liquidity, maintaining a stable inflation rate by adjusting interest rates is a superior alternative. Also, with todays electronic banking and investment services and liquid stock and bond markets, there is little additional trade-facilitating effect in people holding more liquid deposit. Assuming one is paid monthly, any liquid buffers beyond a month's income are just a waste. And theoretically, with automatic

2203 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity".

2204 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

2205 See: "4.2.1.2 A Higher Inflation Target Leaves 'Room to Cut' by 'Taxing' Cash" and "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

trading, deposits only need to exist for the moment of the transactions.

4.2.4.7 Higher Capital Income and Corporate Taxes Due to Higher Nominal Profits

In short:

- *Inflation makes the same (nominal) tax rates on capital income much more severe, as the taxes are determined for nominal profits. This is a notable effect even with a 2 % inflation target.*
- *As long as there are capital income taxes (and an inflation target above 0 %), it makes sense to have an inflation deduction on them according to capital employed in any case.*

We should note that, if we choose a higher target inflation rate as our way to facilitate negative interest rates, all *nominal* profits would be increased – although an investor would only be making a real profit if she made a nominal profit higher than the target inflation rate. This means that if we still maintain a capital income tax (which the initial suggestion involves[2206]), charging it directly as a percentage of the whole of nominal profits makes little sense, as even investments that end up making a loss would be taxed. Of course we don't want to discourage productive investments (which would only raise their pre-tax profit requirements further). Let's remember that the only need for capital income taxation was to prevent circumventing the progressive payroll taxation (by paying e.g. dividends to employees), which are meant to function as work-sharing incentives.[2207]

Feldstein and Summers (1979, p. 1) calculate that "inflation raised the 1977 tax burden on corporate sector capital income by more than $32 billion, a 50 percent increase in the total tax burden" and "equivalent to 69 percent of the real after-tax capital income of the nonfinancial corporate sector".

Many people don't realize that, even in the current situation, a 2 % inflation rate makes exemptions on capital ncome taxes (e.g. in Finland for sale of an apartment the owner has lived in for at least 2 years) far more significant advantages than they look at first glance. E.g. with a 25 % capital income tax rate and 33 % corporate tax rate (totaling 50 %) and a 2 % inflation rate, a 5 % pre-tax nominal earnings on the capital employed in a company would leave you only 0,5 % of real profit (5 % * 0,5 -2 %), while an investment in an item exempted of capital income tax (like the apartment) with the same 5 % pre-tax nominal yield, yields a 3 % real profit (5 % - 2 %). What looks like a tax benefit doubling net capital income (removing the 50 % tax) is, in real terms, actually increasing it six-fold!

With a 6 % inflation target and similar 50 % taxation of profits, even a 11 % nominal pre-tax profit would leave the investor with a real post-tax loss.

It would make sense to make an "inflation deduction" from all profits in calculating any capital income taxes (and corporate taxes), e.g. 5 % of capital employed if the target inflation rate was 6 %.

The big question with such an inflation deduction is how to determine the "capital employed". In most cases we can simply use the acquisition cost of the asset. This would apply both for sales profits and any interest, rent or dividends the asset generates. (In the suggested model, there are no corporate taxes, i.e. taxes paid directly out of company profits – so as to avoid "tax shield effects" of leverage.[2208]) In the case of company shares owned by founders, the acquisition cost is the initial equity investments made. Otherwise it is the purchase price of the shares.

Dividends and interest are paid out of a company's shareholder equity and directly reduce equity in the company's balance sheet, which would make it tempting to use the book value of the assets in their case for "capital employed". But the problem is that there are many accounting trick by which asset items can be overvalued on the balance sheet (e.g. slower depreciation, capitalizing IPRs, maintaining the "goodwill" from acquisitions...).[2209] Acquisition prices are therefore the clearest solution.

There might exist other loopholes by which investors can exaggerate the value of their investments to get higher inflation deductions. But in most cases, an accounted rise in the investment's value (e.g. through an intermediary sale at a higher price) *is* capital income and would make the investor liable to pay taxes for that capital income – eliminating the benefit of future deductions. E.g. when a person renovates his own house and when an entrepreneur invests "sweat equity" in his business (works without pay), the resulting rise in the value of the house or company is theoretically labor income, but they would be taxed as capital gains (unless the person pays himself

2206 See: "Appendix 2.2: One Simple Version of a Competitive Taxation Model" and "4.1.2.6 Avoiding Tax Avoidance through 'Entreployees'".
2207 See: "4.1.2.6 Avoiding Tax Avoidance through 'Entreployees'".
2208 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
2209 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

salary, in which case they can be subtracted as expenses). If some profitable loopholes with the inflation deduction persist, it might be safer to submit to capital income taxes (of lower nominal rates) being paid on all nominal capital income, which simply raises pre-tax profit requirements.

This complication is another "set point" in favor of the alternative of eliminating physical cash, which would allow even a 0 % inflation target and eliminate this problem. And it is also yet another example of the problematic nature of capital income taxation in general. As said in section 4.1, if you can find a way to make sharing work profitable in a way that does not require any transaction taxes, we would be very interested!

4.2.4.8 Cash Printing Costs

In short:

- *Even if cash couldn't be eliminated altogether, the need for it is constantly diminishing.*
- *A 5-10 % annual inflation rate would not significantly increase the number of bills or coins that have to be printed or minted.*

Printing and designing new notes and coins of course has its costs too.

According to a rule of thumb of exponential growth, a 7% annual growth rate results in approximately 100 % of total growth (i.e. doubling) in a decade.[2210] Thus for example a stable inflation rate of 7 % would cause the real value (purchasing power) of money to be halved in about 10 years. This means that nominal prices would rise ten-fold in about 34 years.[2211]

An average, a banknote's life cycle is only around two years – of course varying for notes of different denominations.[2212] Thus, printing costs would not be significantly increased by the suggested kind of stable inflation. Smaller coins or notes would have to be annulled every two decades or so and about twice a century a new generation of the currency might have to be issued to drop a few zeros in order to keep figures in notes and bank accounts sensible for accounting.

This does not differ much from the average rate of currency renewal during the 20th century. But by contrast, cash will be much less significant in the 21st century, as electronic money is already dominating transactions. This will make the costs of printing and designing coins and notes a less significant issue. Even if the costs of managing the cash supply might be in hundreds of millions of euros or dollars, the assumption behind the Friedman Rule (that the government can create new money at practically zero cost) suggests that these costs are not significant in terms of the whole economy.

And as said, the only reason we need a higher target inflation rate is that it is the easiest way to charge a negative real interest rate on cash. With the current pace of technological progress (e.g. internet banking is only about two decades old) it is likely that it won't take 34 years for cash to be eliminated completely. For example Kenya is already almost cash-free with its wide adoption of mobile payment services.[2213]

4.2.4.9 Real Estate Bubbles

In short:

- ***Although real estate bubbles can be further stimulated by low interest rates, the actual root cause of this bubbling tendency is the fact that land – the location value of real estate – is a limited, vital resource that does not decay and always has a local monopoly and therefore generates positive cash flows regardless of the profit requirements of capital.***
- ***Lower interest rates should not raise the prices of shares of companies in perfectly competitive industries. They should only raise the market values of the shares of monopoly companies and limited resources, where competition cannot increase supply to push the average profits down to match the lowered profit requirements.***

> "Negative interest on currency must accompany Georgist or Gesellian levies on land as well, and indeed on any other source of 'economic rents.' The physical commons of land, the genome, the ecosystem, and the electromagnetic spectrum, as well as the cultural commons of ideas, inventions, music,

2210 $1.07^{10} \approx 1.967$

2211 $1.07^{34} \approx 9.978$

2212 "The Banknote Lifecycle – from Design to Destruction", DeLaRue company website, http://www.delarue.com/ProductsSolutions/BanknoteProduction/TheBanknoteLifecyc/

2213 Graeber, Charles, "Ten Days in Kenya With No Cash, Only a Phone", Bloomberg Business, 5th Jun 2014, cited 5.3.2015, http://www.bloomberg.com/bw/articles/2014-06-05/safaricoms-m-pesa-turns-kenya-into-a-mobile-payment-paradise

and stories, must be subject to the same carry costs as money, or Keynes's concern will come true." – Charles Eisenstein, Sacred Economics (2011)

A common argument is that higher inflation – and lower interest rates in general – tend to result in real estate bubbles and increase the systemic risks and instability of the economy. This is the popular explanation for the U.S. real estate bubble triggering the financial crisis of 2008 (e.g. Korkman 2012, p. 86). Also e.g. in the case of the eurozone crisis, Spain's and Ireland's state of emergency was originally the result of a real estate bubble, which, when bursting, left overleverage banks in trouble with increasing mortgage defaults and risks thereof[2214] in *domestic* debts – not so much low competitiveness indebting the whole economy to foreigners, as was the case with Greece and Italy.[2215] (Korkman 2012, p. 193-194)

But why a *real estate* bubble? Why not also a car bubble, a carpet bubble, a boat bubble or a bubble in any other real asset that can be invested in?

Because these other things can be produced – and more of them would be produced if the prices investors are willing to pay for them were to rise (i.e. their supply has price elasticity[2216]), which would eventually satisfy the increased demand for these products and assets (for use or investment purposes). The same applies to companies under fair competition: The falling interest rate reduces their profit requirements and competition pushes the average profits down to match those new requirements.[2217]

Houses and other buildings are no different in that they can be produced as well. But land – good locations – cannot! Therefore this real estate bubble issue boils down to the nature of land as a limited, vital, irreplaceable resource. Similarly, dropping interest rates can raise the share prices of companies in a monopoly position – or otherwise not subject to fair and tight price competition.

Without privately owned monopolies, the dropping interest rates (adjusted predictably, with the sole objective of keeping inflation stable, imitating a working market interest rate[2218]) should cause no bubbles. How the relationship between dropping interest rates and a company's share price (or a resource's market value) could even be used as "monopoly indicator" was proposed in "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)". How the problem of the private ownership of land (which always has a local monopoly) can be solved rather simply and efficiently with land value taxation (LVT), is discussed in more detail under "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

In mainstream economic discussion, a major objective of monetary policy is preserving financial stability by preventing "asset price inflation".

> "Other than raising the general level of interest rates, central banks have little power to control asset price inflation. This poses a dilemma since cooling over-heated asset markets may require cooling the economy as a whole, making the cure as bad as the disease." (Palley 2004, p. 44-45)

Lord Adair Turner writes:

> "Central banks should sometimes, as the Bank for International Settlements argues, raise interest rates to constrain credit booms even when inflation is low. But if property buyers expect large price rises they will be deterred from borrowing only by rate rises so large that they harm the wider economy."[2219]

But the function of the (risk-free) interest rate is to keep aggregate supply and demand in balance.[2220] The market interest rate is the return on unemployed, risk-free capital (and hence the main determinant of the profit requirements

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2214 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "3.1.4 Private Credit Crises, Mass Defaults and Overleverage".

2215 See: "3.1.6.2 Sticky Trade Imbalances".

2216 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2217 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2218 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply" and "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations".

2219 Turner, Adair, "High tide for house prices is engulfing our economy", Financial Times, 25th Jul 2014, cited 1.8.2014, http://www.ft.com/intl/cms/s/0/82baca66-1343-11e4-8244-00144feabdc0.htm

2220 E.g. Paul Krugman also makes this point, but unfortunately ends up suggesting more regulation as the solution (see: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking").

"There are many economic commentators who take rising leverage, asset bubbles and all that as prima facie evidence that monetary policy was too loose; some argue that the Fed kept rates too low for too long after the 2001 recession, some argue that interest rates were too low over the whole period from 1985 to 2007.

The trouble with this line of argument is that if monetary policy is assigned the task of discouraging people from excessive borrowing, it can't pursue full employment and price stability, which are also worthy goals (as well as being the Fed's legally binding mandate). Specifically, since the US economy shows no signs of having been overheated on average from 1985 to 2007, the argument that the Fed should nonetheless have set higher rates is an argument that the Fed should have kept the real economy persistently depressed, and unemployment persistently high – and also run the risk of deflation – in order to keep borrowers and lenders from making bad decisions. That's quite a demand."

– Krugman, Paul, "Bubbles, Regulation, and Secular Stagnation", New York Times – The Opinion Pages, 25th Sep 2013, cited 10.6.2014, http://krugman.blogs.nytimes.com/2013/09/25/bubbles-regulation-and-secular-stagnation/

of all other investments),[2221] and the land component of real estate (its value in excess of construction costs) is a monopoly resource. Therefore, suggesting that we should prevent real estate prices from skyrocketing by raising interest rates – especially when there is unemployment and deflationary pressures (lowering pressures on wages) already – is practically asking to raise the profits of other assets to the level of monopoly profits. This makes about as much sense as suggesting that the government should provide all mafia bosses a hefty enough pension that they wouldn't be tempted to make their henchmen point guns at people to get that amount of money directly from them by force. The sensible solution, instead, is eliminating the monopoly (the "mafia") – instead compensating for it with even more unearned profits!

4.2.4.10 Other Limited Resources Such as Minerals

In short:

- *The holding of minerals is difficult to tax to prevent hoarding.*
- *But, fortunately, their supply has price elasticity, as they need to be mined and refined – or recycled. Also, unlike land, they are fungible.*
- *Nevertheless, the market prices of minerals (and other commodities) are likely to remain very volatile in the future.*
- *Higher mineral prices have the positive effect of increasing recycling and resource use efficiency.*

"In order to be irreplaceable one must always be different." – Coco Chanel

"Would they switch into commodities as a store of value? If the commodity is non-durable, consumption has been boosted. If the commodity is durable and, for simplicity, has a constant marginal real use value over time, a simple arbitrage argument shows that the money price of the commodity would fall by X percent per period if the period nominal interest rate is -X percent." – Willem Buiter[2222]

What about other limited resources, such as metals? Namely, the market values of gold and silver have boomed in the last decade (although much of this bubble has burst in 2013 and 2014). The symbolic value of gold, with its prime investment metal status, makes a much bigger part of its demand than functional uses and, therefore, hoarding gold does not do much damage to the real economy.

But for example the hoarding of aluminum, which is similarly limited in supply but has larger-scale practical uses, could have more concrete effects. A higher inflation rate – or otherwise lower real interest rates – would probably cause such "retainers of value" to further increase in market price. Unfortunately, the market-value-tax-approach used for land does not quite work here.

The problem of what resources should be taxed is not so hard *in theory*: Simply tax all materials that cannot (feasibly) be produced out of abundant elements. This would naturally include all minerals. A tax according to market value – just as with patents and land[2223] – would (theoretically) ensure that the resources are always kept in the most productive use available. What isn't scarce now might become so later due to a new technology or demand trend utilizing it and a market value tax would adjust to such changes, working as a Pigovian tax[2224] for hoarding.

However, the *practical* challenge making such taxation almost impossible is that these minerals are much easier to *hide*. Would the government have to keep on investigating everyone's home to keep track of what elements they are in possession of and dig up forests to check for illegal "buried treasures"? Such attempts would inevitably create a massive black market for "unregistered" or "unlicensed" minerals. And if one country taxed them, they'd all move elsewhere. If you come up with a bulletproof solution for taxing the ownership of minerals, we'd be eager to hear of it!

Fortunately, this isn't necessary, because all minerals can further be mined and refined or harvested in another way. Although their supply is not infinite, there is no specific point at which all gold or aluminum ore would be mined out. Remaining natural ore reserves just become more

2221 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

2222 Buiter, Willem, "Negative interest rates: when are they coming to a central bank near you?" Financial Times blog, Maverecon, 7th May 2009, cited 6.6.2014, http://blogs.ft.com/maverecon/2009/05/negative-interest-rates-when-are-they-coming-to-a-central-bank-near-you/

2223 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies" and "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

2224 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

and more expensive to access. Thus the increase in their market prices *do* affect supplied amounts in the longer run by making mining more profitable and encouraging looking for and accessing new sources – even if the *short-term* price elasticity of supply would be low.[2225] Also, their supply is not set in stone (pun intended): At any time, new, bigger or more accessible reserves can be discovered, and technologies increasing productivity in extraction and recycling developed, which has the potential to drop the market value of any mineral quickly. They are, hence, by no means *risk-free* "retainers of value."

But as for precious metals like gold and silver, the even bigger factor in their volatility is their strongly varying demand. As mentioned, despite some possible functional uses – for example as microscopic amounts in electronics – the value of gold has historically been based more on its aesthetic properties and scarcity and especially the resulting, sticky status value and status as an investment good. Such symbolic value is very speculative and "trend-dependent" (not referring to *cyclical trends*[2226] here, but fashionability) in nature, making gold extremely volatile.[2227]

The big difference to land is that minerals are *fungible*: No bar of aluminum has a "local monopoly". Moreover, they are often substitutable, not only with other bars of the same metal, but other metals, alloys or ceramic substances. Few metals have absolutely no possible substitutes in any vital uses, and gold is no exception. In most possible functional uses of gold, silver is currently used instead because it is cheaper. If silver becomes extremely scarce due to e.g. speculative hoarding or wasteful use, in many of its uses it could be replaced with gold or other members of the platinum family: platinum, ruthenium, rhodium, palladium, osmium and iridium. This interchangeability – together with the non-vital nature of the uses – makes "blackmail" by hoarding up these metals a very uncertain strategy – even if someone could summon up enough financial capital to acquire significant amounts of them. And in general, a rise in the prices of such resources encourages technology to develop in a direction that allows us to adapt to scarcity in time by utilizing the resource more efficiently, recycling it faster and/or allowing the use of new substitutes.

The biggest risks with the scarcity of these minerals is that their prices rising will encourage the exploitation of their respective natural ore reserves on the expense of for example protecting the biodiversity of the region. This is one reason why the most diverse and endangered habitats should be strictly conserved, and why accessed natural ore reserves should be strongly taxed – just like all other natural resources.[2228] This will raise prices preemptively to encourage recycling the minerals more efficiently and "mining" them from landfills instead of constantly exploiting new natural reserves, as explained in "3.4.3 Unsustainable Waste Management".

Another possible result of the functional demand for metals rising is that metal investors – none of whom have full control over the market price, as local landowners might have – will be tempted to start "leasing" the metals for functional uses in e.g. electronic appliances. In practice this might occur by selling the minerals, while buying a futures contract for buying them back from the producer with a lower price, ensuring a return for the "lessor". The difference between the spot price and the future price would be the "rent" for the mineral and would follow the supply and demand for use of the mineral.

In order to hedge his own raw material costs,[2229] the producer ("lessee") would then likely impose some form of "pawn" or "down payment" system on his products – like the one now legally imposed on bottles and cans in some countries – to ensure that the user of the product returns it for recycling.

Such a lease model, where e.g. hedge funds and other investors are the final "financial owners" of most metals (the market values of which are very volatile) could well be the future of mineral markets. One could argue that, with the massive volumes of futures contracts and ETFs traded on commodities, that is already the situation – except for the pawn-and-recycling-part.

The situation gets troublesome in politically uncertain situations where some parties (especially optimistic anarcho-capitalists,[2230] fans of Austrian economics[2231] as well as other "goldbugs" and commodity money worshippers) are seriously speculating on the collapse of nation states or their monetary systems, and hence don't trust any credit contracts (including futures).[2232] In such situations, some will be likely to hoard up physical metals into warehouses, reducing their supply for productive uses. (It would seem wiser to hoard functionally useful metals, like aluminum, instead of metals of mainly

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2225 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2226 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2227 See also: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

2228 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats" and "4.3.3 Other Natural Resources, Renewable or Non-Vital".

2229 On derivatives and hedging risks, see: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments" and "3.3.2 Famines and Overpopulation".

2230 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

2231 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

2232 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources", "1.1.7 Ownership as a Bundle of Rights" and "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".

speculative exchange value, like gold.) In any case, such speculation is a very risky, and hence costly, business.

4.2.4.11 Austrian and Fundamentalist Libertarian Arguments

In short:

- *Their "commodity money religion" confuses Austrian economists about the mechanics affecting the price level. Their whole definition of "inflation", which assumes the Quantity Theory of Money, has no meaning in a world where most money is backed by private debt (creating demand for the money as new money is "created").*
- *Most Austrian arguments against inflation only (a) demonstrate how negative interest rates and a fee on the government deposit guarantee would be a far more efficient form of taxation than transaction taxes and (b) demonstrate an unquestioning devotion to outdated Protestant work ethics.*

If the Zeitgeist Movement can be nicknamed "anti-moneyism",[2233] the Austrian school economics could almost be called "anti-inflationism". "Inflation" is the devil himself:

> "All the economic arguments advanced in favor of inflation are untenable. Their fallacies have long since been exploded in an irrefutable way." (Mises 1912, p. 426)
>
> "With the exception only of the 200-year period of the gold standard, practically all governments of history have used their exclusive power to issue money in order to defraud and plunder the people." (Hayek 1976, p. 16)
>
> "The notion that inflation is harmful is a staple of economic science. But most textbooks underrate the extent of the harm, because they define inflation much too narrowly..." "[Inflation] springs from a violation of the fundamental rules of society. Inflation is what happens when people increase the money supply by fraud, imposition, and breach of contract." (Hülsmann 2008, p. 175)

Austrian economists and other gold standard supporters give the following kinds of arguments against government-induced[2234] inflation:

1. "Inflation benefits the government on the expense of its citizens."
   a. It takes away from the citizens (without asking their permission) and gives to the government.
   b. Inflation supports tyranny and an overcentralized and ever-expanding government.
   c. Inflation has allowed sustaining wars longer and funding other harmful or inefficient functions that would otherwise be constrained by public objection or financial limitations.
2. "Inflation makes 'moral decay' and 'irresponsibility' an institution"
   a. It discourages saving and frugality.
   b. It encourages individuals to spend and invest earlier and take on more debt.
   c. It "forces" people to make risky investments.
   d. Increases debt financing of corporations by allowing lower interest rates. (Hülsmann 2008, p. 175-191)[2235]

Practically the first arguments are great examples of why inflation is a much more efficient and harder-to-evade form of taxation than taxing transactions. The fact that inflation *allows* the government to keep the economy running even in a war situation and to expand to a massively inefficient and corrupt leviathan, means that it would also allow financing the government in other situations, avoiding the use of harmful taxes (like transaction taxes)[2236] and balancing the public budget even in the case of a severe economic crisis.

2233 See: "2.2.3.5 The Planned or 'Resource-Based' Economy – 'We Know What We Need'".

2234 It is noteworthy that these factions tend to limit the meaning of the word "inflation" only to increases in the general price level due to an expansion in the money supply – or to the expansion itself (see: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money"). A rise in prices due to e.g. increased demand for products and decreased demand for monetary savings is not "tainted" with this demon of a word.

2235 Another such rant by Peter Twigg starting from the point of view that monetary saving is "real" value and that net monetary saving can occur and that people should always be encouraged to save can be found here: (viewed 2.4.2013) http://www.adamsmith.org/research/articles/inflation-the-ultimate-corruption

2236 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

These arguments of course hit the sweet spot with libertarians who oppose a central government altogether and think of the involuntary government just as a tool of extortion that should be sabotaged as much as possible if it cannot be eliminated. This assumes that a democratic government cannot be trusted to act according to the benefits of all its citizens. There are many good arguments against democracy – representative, direct and other forms of it – e.g. that it allows the oppression of minorities. These are discussed briefly in "6.3.2 Appendix 3.2: The Challenges with Democracy". But if you accept that some form of central government is needed and that such an entity can provide added value to the whole economy and all its citizens, then all of the arguments under number 1 strongly support facilitating negative interest rates.

The arguments in the second group are prime examples of how our economic morals are outdated by over a century. We still consider working and saving absolutely virtuous and spending and borrowing inherently irresponsible. These rules of thumb were all very well in a world where people lived hand-to-mouth and more capital (savings) was desperately needed for real investments that would allow higher productivity. In today's world, they are keeping us – both individuals and nations – in a war of trying to indebt each other by any means.

It is clear that we won't be able to get out of this economy war of indebting each other and keeping each other unemployed until we manage to understand the system through different frameworks and see how the situation has changed in the past century and then update our moral rules of thumb accordingly.

> "[F]iat inflation is a juggernaut of social, economic, cultural, and spiritual destruction." (Hülsmann 2008, p. 191)

And that outdated spirit (the "spirit of capitalism" in Max Weber's terms), culture and morality (the "Protestant work ethic" (Weber 1930)) are exactly what we need to be destroying if we are going to have any chances at seeing sustainable solutions to our current economic problems. This book's sister book, "The Guilt Economy – Rage Against Our Medieval Money Morals", addresses these outdated morals, other misunderstandings and their catastrophic effects in more detail.

4.2.4.12 Other Illogical Attempts to Demonize Inflation

In short:

- ***A lot of anti-inflation and anti-central-bank propaganda insists that inflation is taking away from people "at the bottom", when it is actually a transfer of wealth from incumbent creditors (the unproductively rich) to debtors (the poor and productive investors).***

A common argument is that inflation steals from the poorest in the system because the rich have their assets in real estate and stocks, which are not affected – or might even be inversely affected (e.g. in the case of real estate and other monopolies).

But, firstly, the *poorest* in the system are the ones living hand-to-mouth – or already deep in debt. They buy at the same value of money as they earn it. If they have debt, the negative interest rates allowed by inflation makes them better off! And if these poorest are poor because they don't have enough earning opportunities, it is mainly because other people are saving too much money![2237] Getting creditors to spend and invest is the only way to allow debtors to pay their debts back and earn their living.

It is true that this forces people with savings to take more investment risks – and so it should. Individuals saving for personal security is exactly what causes cyclical chain reactions.[2238] It is far more sustainable to achieve economic security by ensuring that everyone always has the possibility to earn a living.[2239]

It is of course also true that richer people can hire someone to manage their assets and have therefore better chances to manage investment risks. The one who knows the most wins the most in the investment market. But this is no argument to justify the protection of the purchasing power of the risk-free credit (unproductive savings) hoarded by the middle class. Directing resources to where they are most productive and managing the risks of such investments is the main added value produced by the financial market.[2240]

Many kinds of funds where people can buy smaller shares exist. And if they don't provide as good profits or risk hedging as private banks, it should be a profitable business to start providing such a service. There is no such thing as "rich people's capital" and "poor people's capital." Even if some people didn't have access to all possible investment

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2237 Assuming free mobility in the mid-term between professions, see: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?" and "3.2.2 Unfair Income Differences and Limits to Social Mobility".

2238 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2239 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

2240 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

markets, rich people and large institutional investors have access to also the safe investment options of deposits and bonds, and maintaining the yields on these maintains higher profit requirements on all other investments as well – functioning like a minimum wage of capital.[2241]

For example "The Four Horsemen" documentary – seemingly supporting very left-wing views – also takes a very demonizing stance on inflation. The argument is that, "by the time this newly created money has filtered down" to the "ones at the bottom", prices have increased but their savings buy them less and their wages remain largely unchanged.[2242] This argument does not make any sense whatsoever. Firstly, the ones who have savings are not "the ones at the bottom". Secondly, inflation is the general rise in the price level, which is usually more a *result* of rising *wages* due to increased total demand. If some wages lag behind price development, this cannot be blamed on the inflation, but on a lack of mobility between sectors and professions – the function of the income differences would be to encourage the balancing of structural imbalances.[2243]In a labor market governed by supply and demand (work shared or not), no one is on "a fixed wage".

The Four Horsemen documentary, just like the Positive Money initiative[2244] and the Zeitgeist Movement (and how many other activist groups), see "fiat money", "fractional reserve banking" and inflation as ways of distributing wealth from the bottom to the top – when in fact a deflationary gold standard currency would be the most certain to achieve that – through high real interest rates blowing up the real value of both savings and debts. One can nothing but marvel how effective the metallist[2245] propaganda has been in this demonization campaign, managing to incept the same ideas into movements so opposed to each other in their fundamental values – and how easily we are fooled by our languages.[2246]

4.2.4.13 Inflation Distorts Economic Decision Making

In short:

- ***Inflation – even when stable and predictable – makes it harder to intuitively compare future and current incomes, costs and real values and, hence, to makes investment decisions. This remains the most valid arguments against a higher target inflation rate – supporting the alternative of facilitating nominal negative rates by eliminating cash.***

Money serves as a common measuring point for market value – a unit of account – for all goods traded freely, not just explicit debts and credits.[2247] Therefore inflation – a change in the purchasing power of the monetary unit – makes it more difficult to make efficient spending, saving, investment and borrowing decisions. This effect, once again, is much more severe in the case of unpredictable and unstable inflation[2248]. Theoretically, it shouldn't make a difference if the value of money deteriorates, as long as it does so predictably, because the deterioration (a stable inflation rate) can be offset by nominal interest rates and inflation is fairly easy to correct in profitability calculations on spreadsheets and in other models.

In practice however, most people don't make their saving and investment decisions using a spreadsheet. With an inflation rate of 7 %, figuring out how much of a real rise in income it would be getting a salary of 6000 e per month in five years' time compared to getting 4000 e per month now is not intuitively obvious and can cause misled conclusions. And then, try to make a quick calculation of what your ability to pay back a 100 000 e loan with a 11,5 % nominal interest rate will be with that kind of income development. These could be considered "nominal rigidities"[2249] in investment intuition. Having to always distinguish between whether one is talking about costs and prices in today's dollars or future dollars is a pain in the butt. With 2 % inflation, the error in confusing the two is not very big, while with 7 % inflation it is 50 % (downwards or 100 % upwards) in 10 years.

Of course, people would get used to such considerations with time, and appropriate slang expressions might emerge. Companies are doing such consideration already

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2241 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

2242 2012, "Four Horsemen", documentary, http://buy.fourhorsemen-film.com/

"But what about those on the bottom of the pyramid. Those on fixed wages or incomes? Those who live in remote areas? Or those with savings? By the time this newly created money has filtered down to them, the prices of the things they want to buy have increased. Their savings buy them less, however, and their wages remain largely unchanged." – 1:44->"Four Horsemen - Official Trailer II", viewed 3.4.2013, http://www.youtube.com/watch?v=wblcGNgmd68

2243 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

2244 See: "2.2.3.6 Democratic or 'Full' Money – 'Power to the People from the Banks'".

2245 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'" and "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

2246 See: "5.1 Why We Don't See the Problems for What They Are".

2247 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2248 See: "4.2.4.1 Problems with Unstable and Unpredictable Inflation".

2249 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities" and "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".

because cash flows have to be adjusted for *present value* (depending on profit requirements)[2250] in addition to *real value* (the "today's money" adjustment). And it could be argued that intuition is always strongly subject to cognitive biases[2251] in economic decision making and therefore "forcing" people to do their bigger, long-term investment choices with a spreadsheet could be a desirable effect.

But significant value remains in having a unit of account the market value of which is directly proportional to real purchasing power. Therefore eliminating cash would be a far better way in the long run to facilitate negative interest rates than a higher target inflation rate. The possibility of negative nominal interest rates would eliminate the need for any inflation and would allow adopting a 0 % inflation target, making it even easier to compare investment options. When cash becomes unnecessary, the only downside would be a reduction in wage elasticity due to nominal downward rigidities.[2252]

But as long as electronic forms of payment aren't sufficiently advanced, a higher target inflation rate – with its increased spreadsheet dependence and everything – remains a better option than maintaining this minimum wage on risk-free credit and constantly blowing up debt bubbles in the economy, increasing systemic risks.

2250 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2251 See: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives" and "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2252 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities".

4.2.5 Other Monetary Policy Questions

4.2.5.1 The Most Relevant Inflation – CPI Composition

In short:

- ***The consumer price index can be composed (and hence "inflation" defined) in many different ways.***
- ***Key questions include the weights of housing and the most volatile elements like food and energy.***
- ***Including the prices of investment goods or financial assets in "inflation" measurements makes no sense.***

As explained in volume 1, inflation is the rate of rise in the price level as expressed in the currency used.[2253] But how should this price level be measured? In "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral" we concluded that what is relevant for an individual consumer is the purchasing power of her savings (denominated in the used currency) in general living expenses. Of course, people have quite different consumption patterns, but using a goods basket based on average consumption preferences is a good enough guarantee for most people's savings. People with specific consumption habits – or with their income fluctuating much with the prices of certain goods – can hedge their savings and loans against volatility in these using futures if they so wish.

Because such corrections can be made, it is not very important what the exact composition and weightings of the Consumer Price Index (CPI) are, as long as the information is available and changes are predictable. Of course, the better the index suits most people's consumption patterns the better.

Peter Schiff, a prime gold standard advocate and central bank demonizer (and believer in the Quanitity Theory), together with many Austrian economists, likes to complain that dollar inflation is actually much bigger than measured because investment goods – real estate, stocks and minerals, like gold – rise in their dollar value and

2253 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

these are not included in CPI measures. But what does it matter to the average consumer how much gold he can buy with his income?

Actually, the composition for CPI used in the U.S. is likely to result in higher inflation figures on average than the HICP (Harmonized Index of Consumer Prices) used by the ECB, because the HICP weighs housing expenses at 16 % (actual rents for housing at only 6 %!)[2254] on average, while the CPI of the Bureau of Labor Statistics (BLS) takes into account "owners' equivalent rent of residences", resulting in weights of over 30 % for shelter[2255] – and rents tend to rise in real terms over time.[2256] The BLS weighting can be considered to represent the portion of living expenses more realistically.[2257] However, the living expenses of homeowners do not rise with rents. Instead, rising rents raise the values of their homes. Therefore, homeowners in the U.S. have experienced hardly any rise in their living expenses, while the purchasing power of the income of Europeans living on rent has dropped much faster than reported inflation would suggest.

If an LVT (land value tax) were implemented,[2258] rising rents (and prices of houses and apartments) would raise the living costs of homeowners as well through the higher land tax. In that situation, the question of whether rents should be weighed according to their full share of people's expenses in the CPI would be related to the question of whether the effects of taxes like VAT should be included in it. And many would answer 'yes': If taxes raise prices, they reduce the purchasing power of savings just as much as if prices were raised by rising wages. Rents constitute a major part of purchasing power and it makes sense to weigh rents more realistically (as the BLS now does).

Another subject of debate is whether exceptionally volatile elements should be excluded or filtered somehow. For example "trimmed-mean CPI inflation estimates" exclude some percentage of the "CPI components with the highest and lowest one-month price changes from each tail of the price-change distribution." The "core inflation" measure excludes the prices of food and energy goods[2259 2260] – two of the components with the wildest price fluctuations in the CPI. There is a logic to this, as fluctuations in these do not usually reflect fluctuations in the labor costs or changes in long-term productivity in these sectors. The volatility is mostly absorbed by the producers (as temporary losses and occasionally high profits) or traders in food and energy futures contracts.[2261] These industries are volatile because of the low price elasticity of demand and supply[2262] in these sectors, which would not disappear even if the supply of labor in these sectors would be completely elastic: It's more a matter of the time it takes to install new production capacity – including investments in facilities and machinery as well as (in agriculture) waiting for additionally planted crops to grow.

If the policy interest rate reacts to such price fluctuations overly sensitively, it might unnecessarily reduce demand for other goods and services in other sectors. In a "perfectly flexible market" – with full structural mobility[2263] and no nominal wage rigidities[2264] – wages dropping nominally in other sectors temporarily would not be a problem. But, in the real world, avoiding unnecessary fluctuations in demand in other sectors is desirable. Longer-term price rises in these sectors – resulting from e.g. reduced supply of labor (and hence higher wage requirements) or reduced productivity (due to e.g. fossil fuel or mineral depletion, soil erosion, adverse climate changes etc.) – would of course still need to be accounted for in inflation. Hence, excluding them completely from the CPI used for guiding monetary policy does not seem sensible. But using e.g. a three-year gliding average of prices in these sectors could be a preferred alternative to using spot market prices.

To sum up, "inflation" is not a self-explanatory, absolute concept. How we define and measure the purchasing power of dollars and euros (and other units of account) is an important question. But, however the CPI is composed, the most important thing is that changes in it can be measured reliably. A second criterion is that it should be as "relevant" as possible for most consumers – that tying

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2254 "Harmonised indices of consumer prices, breakdown by purpose of consumption: 2013", European Central Bank, 16th Jan 2014 (latest release), cited 3.2.2014, http://www.ecb.europa.eu/stats/prices/hicp/html/hicp_coicop_inw_2013.en.html

2255 In November 2013 and December 2011, the BLS assigned a 31,93 % and 31,54 %, respectively, weight for shelter (excluding utilities and furnishing): "Consumer Price Index – December 2013" (BLS 2013; BLS 2012)

2256 See: "4.3.1.1 Land – One Mother of a Monopoly".

2257 Bryan, Mike & Parker, Nick, "You Say You're a Homeowner and Not a Renter? Think Again", The Atlanta Fed's macroblog, 11th Mar 2013, cited 3.2.2014, http://macroblog.typepad.com/macroblog/2013/03/you-say-youre-a-homeowner-and-not-a-renter-think-again.html

2258 See: "4.3.1.2 Land Value Taxation – Preventing Underusage, Extortion and Bubbles".

2259 See: "U.S. inflation", Federal Reserve Bank of Cleveland, cited 3.2.2014, http://www.clevelandfed.org/research/data/us-inflation/mcpi_qa.cfm

2260 "What is 'core inflation,' and why do economists use it instead of overall or general inflation to track changes in the overall price level?" Oct 2004, Federal Reserve Bank of San Francisco, cited 3.2.2014, http://www.frbsf.org/education/publications/doctor-econ/2004/october/core-inflation-headline

2261 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments" and "3.3.2 Famines and Overpopulation".

2262 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2263 See: "3.1.3 Structural, Friction and Classical Unemployment. NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

2264 See: "4.2.3.3 Wage Elasticity with Nominal Rigidities".

their savings and debts to this index is sufficient for their sense of economic security.[2265]

4.2.5.2 Objective and Reliable Monetary Policy – Neutralize Human Judgment to Avoid Regulatory Capture

In short:

- *A central bank has lots of power, as its decisions affect the market prices of many assets. This makes it a potential tool for rent-seeking.*
- *The impact of human judgment on individual interest rate changes can be mostly neutralized to prevent such regulatory capture and keep the investment market fair.*

One of the biggest concerns with central bank controlled monetary policy – as with any public institution that has significant economic power – is the fear of regulatory capture and other forms of corruption. As explained in "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power", any person or institution in charge of large sums of others' assets or with power to influence asset prices is a very profitable object of bribery, cronyism and other subtle forms of influence. Knowing about the FED's interest rate decision (or decisions over new QEs[2266] or any other actions) before others allows reaping massive windfall gains on the financial markets.[2267]

The only way to avoid such issues is to "neutralize" central bank policy decisions from the influence of any individual persons' judgment. This means ensuring that either (1) the decision makers themselves don't know the outcome of the decision before it is made or (2) that *everyone* on the market can know it equally accurately beforehand.

How could this be achieved? If we deem human consideration to be necessary for reliable and efficient monetary policy, the decision needs to be dispersed e.g. so that there are multiple expert teams making independent interest rate suggestions, the median of these is chosen and they are incentivized so that none of the teams has incentive to try to pull the decision their way: e.g. so that the expert team(s) making the "worst suggestion(s)" – e.g. the lowest interest rate suggestion in the case inflation pressures end up exceeding targets in the following period – is penalized. However, devising such a system that could not be "played" or cartelized somehow is difficult. Also, such a voting system might be too rigid to react to sudden market shocks.

It looks like a more lucrative alternative to leave monetary policy decisions for an algorithm that takes in certain statistical variables and calculates the policy interest rate – completely free of the judgments of any individual persons. The function of monetary policy is to act as the market interest rate mechanism – as it is the only working market mechanism we have so far invented[2268] – and therefore it should depend purely on market information. It's basically a digital systems control problem. The central bank's job would be to design this controller: choosing the relevant input variables and feedback weightings. When any changes to the controller are made predictably with sufficient notice, every agent on the market has similar chances of predicting the policy interest rate in the future. The only way to do this would be trying to predict what the input statistics will look like and a lot of this information is publicly available. The input statistics actually influencing monetary policy would of course need to be composed of averages of the results of different research agents so that none of them gains a notable information advantage.

So, what are the relevant input variables? The Taylor Rule presented by John B. Taylor in 1993 has widely been considered to be a good predictor of historical central bank actions and it has been prescribed as a basis for conducting monetary policy (Orphanides 2001; Woodford 2001). It uses two input variables: measured inflation and the economy's "output gap", which means how much unused production capacity there is in the economy. However, the output gap approach implies the objective of keeping the economic system running at its full production capacity, i.e. maintaining full-time employment of the whole population. As long as the unit of labor is a human being – sharing work is not profitable for employers – this seems to be the only way to avoid unemployment,[2269] which historically has caused deflationary pressures. But as explained throughout this book, this objective of always producing at maximal capacity makes little sense, as people might prefer increased leisure to additional purchasing power.[2270] If

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2265 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".
2266 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".
2267 See: Pisani, Bob, "Did someone know early about last week's Fed release?" CNBC, 24th Sep 2013, cited 20.1.2014, http://www.cnbc.com/id/101059804

2268 See: "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations" and "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".
2269 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
2270 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

supply really met demand on the individual level in the labor market[2271] and the objective of monetary policy was to keep aggregate demand *in balance with* aggregate supply[2272] (not at any specific or constantly growing level) "output gaps" and GDPs would be completely irrelevant in terms of predicting inflation pressures. *Voluntary* unemployment and underemployment do *not* cause pressures to lower wages.[2273] In a root-debugged, growth-independent economy where sharing work is profitable for employers, monetary policy rules should not be influenced by unemployment rates or amounts of output.

The default solution – making minimal causal assumptions – would be to go purely with the consumer price index (CPI):[2274] When CPI development exceeds the set inflation target, the interest rate is raised according to a certain multiplier and when the CPI ends up below target, the interest rate is lowered. The only question is, whether such a fully "reactionary approach" unavoidably ends up being either:

- too slow (with a too low multiplier), resulting in constant oscillation, or
- too sensitive (with a too high multiplier), and hence overreacting, to statistical errors and the price volatility of certain goods, i.e. "noise".

If, in addition to CPI itself, some predictor of inflation is needed to achieve an efficient controller, it is best to go with the main drivers of inflation:

- Changes in nominal wages (and pressure thereof – "demand pull inflation")
- Changes in productivity ("cost push inflation")
- Inflation expectations ("built-in inflation")[2275]

The main driver of inflation (in the absence of significant supply shocks or other abnormal changes in productivity) are nominal labor costs: When companies increase production in response to higher overall demand, the competition for labor between them causes wages to rise, which requires them to raise prices to remain competitive. However, the mechanic can also function in the other order: Increased demand allows companies to raise prices and the resulting increased profitability encourages and attracts more investments into additional production capacity in the sector, which only then increases the demand for (and competition over) labor and raises wages to lower profits.[2276] The latter is more likely at least in capital-intensive industries, where the short-term price elasticity of supply is low. It is therefore questionable, whether using wage statistics as an additional input variable really allows reacting to inflation pressures more preemptively or not.

Additionally, let's remember that rises in wages that match increased productivity do not cause long-term rises in product prices. Hence, wage changes would also need to be corrected for productivity changes. But changes in productivity[2277] are hard to measure in themselves when wages and prices fluctuate freely. Real overall labor productivity is practically calculated by adjusting changes in GDP for inflation and changes in working hours.[2278] And working hours are very hard (and often irrelevant) to measure accurately in some lines of work.[2279] And even if we could measure working hours, productivity changes could only be calculated after we've established the inflation rate, yielding the required (and likely very inaccurate information) too late in any case.

However, inflation *expectations* on the market – either surveyed or as reflected by e.g. changes in the yields of government bonds (in countries with their sovereign currency) – could, with a moderate weighting, make the control function more efficient than a simple linear controller reacting to CPI statistics. Inflation expectations – more so than historical inflation – lower the perceived real interest rate for consumers and investors[2280] and are hence likely to drive both additional consumption and demand for higher wages. As it is this *expected real interest rate* that really matters, it might even be wise to determine it as the central bank's policy to control inflation expectations, rather than inflation itself. E.g. Upper and Worms suggest overcoming the problem of the "unobservability of real interest rates" by "using survey data on inflation expectations". (2003, p. 234-235)

Of course, to be credible, actual resulting inflation cannot fluctuate much either. As Ben Bernanke says, "anchoring inflation expectations" is crucial for effective monetary policy.[2281]

The biggest concern with "leaving monetary policy for a machine" are unexpected "black swan events" and self-reinforcing market speculations to which such an

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2271 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".
2272 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
2273 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
2274 See: "4.2.5.1 The Most Relevant Inflation – CPI Composition".
2275 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
2276 See: "Graph 9: Distribution of value produced by a company".
2277 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".
2278 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".
2279 See: "2.3.3 The Paralyzing Assumption: 'Work Sharing = Work Time Restrictions'" and "4.1.1.1 Forms of Employment Flexibility".
2280 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
2281 See: "4.2.1.2 A Higher Inflation Target Leaves 'Room to Cut' by 'Taxing' Cash".

> algorithm might be unable to react in time – or to which it could possibly overreact. As a case example, the economic uncertainty caused by the collapse of Lehman Brothers in 2008 – the kick-start of the financial crisis – was not reflected in consumer prices for some time although many investment plans were frozen and the granting of new loans ceased almost immediately, predicting a severe recession at least. In this case, adding inflation expectations (deflation) to the controller might have helped. But testing any possible controller with data from such events is not enough, as the data says nothing about what effects such central bank actions would potentially have had on the system in such an event (whether the controller would overreact or not etc.), and because historical events can never exhaustively prepare us for future "black swans". (Taleb 2012)

Therefore, there might need to be some mandate allowing "manual control" in such extreme events, but the conditions for this need to be strict enough to prevent unnecessary regulatory capture. The author would also argue that if the Root Bug was fixed and supply and demand in the labor market could be expected to meet in the mid-term (so that any drop in aggregate demand would not cause notable long-term income insecurity) the economy should be much more self-stabilizing to any shocks, which would reduce such harmful mass hysteria and speculation.[2282]

2282 See: "3.1.1 Economic Stability and Prosperity" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

4.3 ELIMINATING PRIVATE MONOPOLIES AND (OTHER) PRIVILEGES

In short:

- *There is no conflict **between labor and capital. Monopolies allow extortion.***
- *The main role of a **(democratic) government should be to serve as a vessel for the common ownership of limited, vital resources and natural monopoly industries.***

"There is in reality no conflict between labor and capital; the true conflict is between labor and monopoly... Abolish the monopoly that forbids men to employ themselves and capital could not possibly oppress labor... [R]emove the cause of that injustice which deprives the laborer of the capital his toil creates and the sharp distinction between capitalist and laborer would, in fact, cease to exist." – Henry George (1949, p. 277)

"[T]hough, if we exclude the exploitation of natural resources and monopolies, it is probable that the actual average results of investments, even during periods of progress and prosperity, have disappointed the hopes which prompted them." – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 97)

"The value of natural opportunities is created by the community, and belongs to it. If we collect that value for public revenue, the rent-seekers can go ahead and seek all the rent they can seek. Occasionally they might be very clever, or lucky, and find some – but not at the workers' expense." – Lindy Davies[2283]

As presented in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land", laissez-faire economics and the libertarian ideal of full private ownership and voluntarily formed governments would work marvelously if everything could be isolated – the externality effects of subsystems on one another eliminated – and if people could always build more fertile land and other natural resources for themselves. Unfortunately, on a limited planet with a common climate and strongly interconnected ecosystems this is far more utopian than achieving the abolition of government.

The conclusion was that the fundamental need for a government is to serve as the common "ownership" platform for these limited vital, resources and interconnected systems. Also the need to incentivize sharing work and the need for central control of interest rates stem from the same imperfections. As explained in "2.2.2.1 A Single Precious-Metal-Standardized Currency", we could see a single commodity currency – even if it emerged spontaneously out of trade – as a limited, vital resource in itself due to the extremely high entry barriers[2284] of the "currency market" or "monetary industry". And what finally prevents the ones with low balances of such commodity money from shifting to another currency is land: If the government doesn't dictate a currency, landlords can do so, as everyone has to pay for location in one form or another.

The "monetary industry" with its clearing systems and interest rate controlling central bank is, however, not the only industry with an obvious natural monopoly position. Other industries, too, attain high entry barriers or such benefits of scale that even a duplicated system would cause more inefficiency than competition could decrease it – especially compared to a public owner that would *not* have an implicit responsibility to provide employment (which the public sector currently has).[2285] Such industries and why they should be publicly owned are discussed under "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

2283 Davies, Lindy, "LT Essays #3: Capitalism", cited 19.6.2013, http://www.landreform.org/es3.htm

2284 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

2285 See: "3.1.8 Public Sector Inefficiency".

4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding

4.3.1.1 Land – One Mother of a Monopoly

In short:

- *Land – or rather "location" or "space" – is the most important limited, vital resource and the mother of many other monopolies.*
- *Its private untaxed ownership is the root cause of real estate bubbles, rip-off high rents and inefficiency of land use (including urban sprawl). It also hampers progress in the quality of architecture and construction and raises the income share of capital with increasing living standards.*

"Buy land, they don't make it anymore." – Mark Twain

"Land monopoly is not the only monopoly, but it is by far the greatest of monopolies – it is a perpetual monopoly, and it is the mother of all other forms of monopoly. Unearned increments in land are not the only form of unearned or undeserved profit, but they are the principal form of unearned increment, and they are derived from processes, which are not merely not beneficial, but positively detrimental to the general public." – Winston Churchill, in a speech made to the House of Commons on May 4, 1909

"The rent of the land, therefore, considered as the price paid for the use of the land, is naturally a monopoly price. It is not at all proportioned to what the landlord may have laid out upon the improvement of the land, or to what he can afford to take; but to what the farmer can afford to give." – Adam Smith (1776, p. 205)

"Hence working-men who imagine that capital is the oppressor of labor are 'barking up the wrong tree.' In the first place, much that seems on the surface like oppression by capital is in reality the result of the helplessness to which labor is reduced by being denied all right to the use of land." ... "In the second place, whatever of the earnings of labor capitalistic monopolies may succeed in appropriating, they are merely lesser robbers, who take what, if they were abolished, land ownership would take." – Henry George, Protection and Free Trade (1949, p. 249-250)

"The rent is too damn high." – Jimmy McMillan[2286]

Possibly the biggest threat of negative interest rates is that they would likely cause hoarding of limited, vital resources, for lack of other "retainers of value"[2287] when the yield of risk-free credit – and with it the profits of industries under fair competition – fall negative or close to zero. Most notably, this means land: the location value of real estate. Location cannot be produced, and, hence, low interest rates escalate real estate bubbles. But the same applies partly to all monopolistic industries and vital resources with limited price elasticity of supply: Because their yields cannot drop negative, negative discounting rates make their market value (the net present value of the cash flows they generate) theoretically infinite and practically extremely speculative and volatile.[2288]

It is for a good reason that Georgists and classical economists distinguish land and other non-producible natural resources into a factor of production of its own – "land".[2289] The limitedness of land is also behind the second of the fundamental imperfections of a completely free market: everyone not having the chance to make a living self-sufficiently.[2290]

Most natural resources are to some extent non-producible or limited in their regeneration capacity. But e.g. fossil fuels and minerals have their extraction costs, and their

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2286 "The Rent Is Too Damn High Party's Jimmy McMillan at the NY Governor Debate", debate recording, 18th Oct 2010, viewed 27.8.2013, http://www.youtube.com/watch?v=x4o-TeMHys0

2287 See: "4.2.4.9 Real Estate Bubbles".

2288 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends On Future Consumption and Capital Intensity (and Monopolies)" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

2289 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2290 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

supply has (long-term) price elasticity, as new reserves just become more and more costly to access and extract. Also, the net cash flows on such investments into extraction (mining and pumping etc.) and refining can turn negative with lower prices – if subjected to fair competition.[2291] Regenerating natural resources (fish and game populations, biodiversity etc.) can be plundered and their regeneration capacity deteriorated. In this way, they can be made more scarce and used as a means of extortion. This is what makes both their private ownership and non-ownership (making them unrestricted "commons", which makes them subject to the Tragedy of the Commons[2292]) problematic. Arable land, its soil quality, can also be "destroyed" or significantly degraded through contamination, nutritional impoverishment resulting from e.g. monoculture or other forms of erosion. On the other hand, infertile land, like deserts, can theoretically be transformed into arable land.

However, we need to distinguish the whole concept of "land ownership" from the ownership of physical elements or natural resources. Land ownership is, in fact, not so much about the ownership of anything physical at all – the soil with its minerals and other resources (although often that too). Rather, it is the ownership of the *space* above it – or even more specifically, its *location* relative to other "land". If you buy an acre of land in Liverpool and then scoop up a ten-meter layer of soil, truck it to London and spread it out there, your "land ownership" has not moved to the spot in London. Therefore the position of the "natural rights libertarians" (i.e. deontological libertarians[2293]) that a person can claim exclusive ownership of land by transforming it (e.g. plowing or fencing it) makes little sense. One doesn't really transform the space or location, but the physical resources one has found on it or brought in from elsewhere.[2294]

2291 Due to global cartels like OPEC, the nationalization of oil industries and the fact that many nations have no access to fossil fuels or certain minerals, competition does not really work. And non-renewable energy sources (namely fossil fuels) should be taxed out of use in any case: See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

2292 See: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats" and "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

2293 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

2294 It is also rather difficult to conclude the ownership of space from "self-ownership": the ownership of one's body – at least not space one doesn't currently occupy with one's body (see: "Sidenote Box 117A: Ownership as an Idea, Feeling, Relationship or Extension of the Self?").

Sidenote Box 4311A: Components of Location Value

The market value of lots – undeveloped locations – is directly derived from the potential (future) uses available for that location and hence follow the market value of houses and other facilities. (Kanerva et al 1987, p. 34; Peltola & Väänänen 2007, p. 2)). Theoretically, the only difference between these should be the construction costs. And the market value of a piece of real estate can be derived from the rent that people are ready to pay for using it – just like the market value of any capital asset is the net present value of the cash flows it is expected to generate for the investor.[2295] The valuation equation for land is explained in more detail in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

A major component of location value is proximity to, or, more accurately, the *reachability* of major urban centers. (Peltola & Väänänen 2007, p. 16) This does not only depend on direct geographic distance, but more on available transportation routes and services such as roads and public transport systems. In some simplified valuation models, rentees face a tradeoff between transportation costs, including travel time (which is also affected by traffic congestion), and rent cost. Hence, the rent they're ready to pay increases as the travel costs and times to e.g. work and commercial centers drop. (Alonso 1964) Additionally, regions and areas can have more local properties that have an *attractive* or a *repulsive* effect. For example rivers, lakes and parks tend to be attractive features for residential properties, (Peltola & Väänänen 2007, p. 19) while the proximity of a major highway, an airport or other sources of noise, smell and pollution often have a repulsive affect. (Kanerva et al 1987, p. 34) Of course, the relative valuation of different locations (like anything in a market) is always very subjective and perceived,[2296] and also e.g. the "status" and *reputation* of certain regions is a significant factor.

2295 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2296 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

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As mentioned in "1.1.8 Labor and Capital (and Land?) – The Factors of Production", "land" could also be categorized as a "privilege" instead of a natural resource (see: Graph 8) because its value depends more on the collective productivity of the local society (and therefore people's real income) than any pre-existing factors of nature.

Unlike buildings, location is extremely price-inelastic in supply.[2297] Although the potential to build in central locations can be increased by e.g. changing zoning[2298] to allow higher structures or different uses and although, in some cases, land can be extended into the sea or by digging rails and roads underground, such decisions and the implementation of such projects seldom follow directly the market prices of real estate. (Such changes in the available amount are therefore not "price elasticity".) Therefore the market value of land (the location value of real estate) is largely determined by demand: what people and companies are ready pay for living or operating in a region.

2297 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
2298 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

Ownership of location, in terms of the market, is very different from that of physical resources (natural or non-natural) in that:

- It is harder to destroy (the value of) location. Its value does not depreciate with time in the way the value of producible goods would through decay and increased productivity in those goods. Neither does it have storage costs.
- Its value is strongly dependent on the use of adjacent land, and therefore the use of land almost always has significant *externality effects* (negative and positive) on the value of surrounding land.
- It is not a homogeneous, fungible commodity – each lot is special and has a "local monopoly."
- It can hardly be produced at all – e.g. habitats of animal populations can be expanded, animals can be bred, forests can be grown, but you cannot produce another Central Park into Manhattan (without removing something else).
- The concentration of people into an area is fundamental for innovation and the division of labor,[2299] the two main drivers of increasing human productivity – paradoxically even more so in the era of the internet and virtual presence.[2300]
- Most human food production requires significant areas receiving enough sunlight and rain – making such surface areas a vital resource, even if the soil could be transformed in terms of nutrition (although this "overall limitedness of land" isn't such a location-specific issue).

Looking at the ownership of location and space through the lens of "a bundle of rights",[2301] the differences with physical entities – or even intellectual property – become even more salient.

As the value of location does not decay with time and as similar competing land cannot be produced,[2302] land in a growing city is valued as a growing perpetuity (an endless source of cash flow) and is strongly influenced by interest rates. This is explained in more detail in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

Already Adam Smith noted that "the rent of the land ... is naturally a monopoly price" and will yield whatever people can afford to pay for it (Smith 1776, p. 205) – even in farming, which is less location-specific than urban land use. Hence, rent tends to take up a bigger and bigger

2299 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".
2300 Yglesias, Matthew, "Classical Economics, Now More Than Ever", Slate.com, MoneyBox blog, 10th May 2013, cited 17.6.2013, http://www.slate.com/blogs/moneybox/2013/05/10/back_to_the_classics.html

2301 See: "1.1.7 Ownership as a Bundle of Rights".
2302 In some cases, a city can be expanded out into the sea, but there are limits to how far this kind expansion can go – not to mention how costly and environmentally hazardous such projects tend to be. And it inevitably has strong (also negative) externalities on the value of other real estate – e.g. houses and apartments previously priced high due to their seaside location.

share of people's income when living standards rise with increased productivity.[2303]

Winston Churchill called the private land ownership "the greatest of monopolies" and "the mother of all other forms of monopoly". Although non-location-dependent monopolies (e.g. patents) also exist, this is a deserved title, as location dependence is behind a number of other natural monopoly industries, such as basic infrastructure.[2304]

And this monopoly is one factor keeping the yields of all capital investments higher than they would be – even with the zero lower bound on interest rates and wage regulations that also keep interest rates higher than they would be otherwise. Ha-Joon Chang points out that the availability of land is what kept American wages in the 19th century much higher than those in Europe, despite similar GDP per capita. I.e. the share of total income going to labor (as opposed to capital and land) was higher.[2305] Also John Maynard Keynes notes how the demand for land can maintain higher interest rates. (Keynes 1936, p. 221-222)

Of course, land is not an *absolute monopoly*, as there are usually many different land owners in an area. Nevertheless, it is an *entry monopoly*: Total supply is naturally limited, and the only way to enter the market is to buy the resource from a current owner. (Adams 2015, p. 9)

Henry George identified the land monopoly as practically the only reason why inequality keeps growing and why poverty persists despite increases in productivity and overall wealth.

> "Take now ... some hard-headed business man, who has no theories, but knows how to make money. Say to him: 'Here is a little village; in ten years it will be a great city – in ten years the railroad will have taken the place of the stage coach, the electric light of the candle; it will abound with all the machinery and improvements that so enormously multiply the effective power of labor. Will in ten years, interest be any higher?' He will tell you, 'No!' Will the wages of the common labor be any higher...?' He will tell you, 'No the wages of common labor will not be any higher...' 'What, then, will be higher?' 'Rent, the value of land. Go, get yourself a piece of ground, and hold possession.' And if, under such circumstances, you take his advice, you need do nothing more. You may sit down and smoke your pipe; you may lie around like the *lazzaroni* of Naples or the *leperos* of Mexico; you may go up in a balloon or down a hole in the ground; and without doing one stroke of work, without adding one iota of wealth to the community, in ten years you will be rich! In the new city you may have a luxurious mansion, but among its public buildings will be an almshouse." (George 1912 p. 175)

Because of this irreplaceability of land, investors and real estate developers will buy up all the potentially valuable land in and around growing cities – as they already do – even when they have no intention of utilizing it for anything productive for years to come. If the local economy does not decline significantly, the land can be expected to at least maintain its value. If the economy grows and the city expands and people's incomes grow, the value of the land can be expected to rise dramatically. And this is nothing new. This is what has always happened with urbanization. As Henry George Jr. put it in the introduction to The Twenty-Fifth Anniversary Edition of Progress and Poverty (George 1912, p. 8)

> "Henry George perceived that land speculation locked up vast territories against labor. Everywhere he perceived an effort to 'corner' land; an effort to get it and to hold it, not for use, but for a 'rise.'"

And the less is built, the more the value of all existing built (developed) and unbuilt (undeveloped) property rises as well. Anyone already owning built property not only has the incentive to buy more land, but to hold back development in order to ensure that the value of their current investments do not drop due to additional supply of apartments and facilities.

This incentive trap is strengthened by the low price elasticity of the demand for apartments: It is not easy to adjust the size of individual apartments, and therefore demand can practically mostly flex downward through people moving to nearby municipalities or by more people living in shared housing. Therefore, maintaining even a small deficit of apartments by avoiding new construction can keep housing prices on a rising track, while merely a slight oversupply (or fear of it) might cause all apartment prices and rents to drop dramatically. When large companies own significant amounts of real estate,

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2303 Demand for accommodation could of course decrease, but it would be required to be expected to drop forever (and at a rate faster than what the discount rate is) in order to prevent negative interest rates from turning land value theoretically infinite. And that is unlikely, as, even if people downshifted their other expenditure, they would likely still be willing to pay for location as long as their labor earning opportunities did not decrease significantly.

2304 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

2305 "In the early nineteenth century, US per capita income was still around the European average and something like 50 per cent lower than that of Britain and the Netherlands. But poor Europeans still wanted to move there because the country had an almost unlimited supply of land (well, if you were willing to push out a few native Americans) and an acute labour shortage, which meant wages three or four times higher than in those in Europe." ... "At the time, the existence of almost-free land in the US made it necessary for American manufacturers to offer wages around four times higher than the European average, as otherwise the workers would have run away to set up farms..." (Chang 2010, p. 103 & 67)

they have an incentive to keep some of it unoccupied in order to keep rents for the rest of the capacity higher. This arguably is the case for example with office facilities and empty lots in the Helsinki metropolitan area.[2306] Negative real interest rates would make such hoarding of land just as a retainer of value (and keeping it out of use) even more tempting – even for other investors.

It is important to point out that investing in e.g. bigger or more fancy apartments is not a problem, as more, bigger (at least higher) and better buildings can always be produced (as long as zoning and the availability of lots allow it[2307]). Doing so does not limit anyone else's ability to live in a certain place or improve their homes. As long as the possibility of additional construction resulting from higher rents and prices exists, it will prevent the price of accommodation and buildings (assets used to provide accommodation) from bubbling up. When there is more demand for better or bigger apartments or business premises, the additional construction results in more earning opportunities for others as with increased demand for consumable products and services. It is the hoarding and *underutilization* of *land* – location – that is the challenge. The rent paid for location doesn't grant earning opportunities (employment) for anyone else, but is rather a big income transfer (from rent payers to real estate owners) and, therefore, including it in the Gross Domestic Product (GPD)[2308] can be considered very misleading.

In short, the private, untaxed ownership of land – the location value of real estate – is a natural monopoly and a root cause of:

- real estate bubbles,
- rip-off high rents (that just grow as people's incomes grow),
- urban sprawl and other inefficient land use in cities,
- non-developing (implemented) quality of architectural design and construction quality, including housing technology, and
- the increasing income share of capital with economic development and ever-polarizing wealth distribution.

Lower interest rates merely escalate this bubble – serving as an indicator of the monopoly nature of land.

2306 See: "4.3.1.6 Case: Helsinki Metropolitan Region".
2307 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".
2308 See: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".

"Suppose that there is a kind of income which constantly tends to increase, without any exertion or sacrifice on the part of the owners: those owners constituting a class in the community, whom the natural course of things progressively enriches, consistently with complete passiveness on their own part. In such a case it would be no violation of the principles on which private property is grounded, if the state should appropriate this increase of wealth, or part of it, as it arises." ... "Now this is actually the case with rent." ... "[Landlords] grow richer, as it were in their sleep, without working, risking, or economizing. What claim have they, on the general principle of social justice, to this accession of riches? In what would they have been wronged if society had, from the beginning, reserved the right of taxing the spontaneous increase of rent, to the highest amount required by financial exigencies?" – John Stuart Mill, Principles of Political Economy (1848, Book 5, Ch. 2, Sec. 5)

"Men did not make the earth. It is the value of the improvements only, and not the earth itself, that is individual property. Every proprietor owes to the community a ground rent for the land which he holds." – Thomas Paine

"But as rich countries shift more and more into a postindustrial economy, I think many of the distinctive posits of old-fashioned classical economics are relevant again. In particular the treatment of land and natural resources as something important and importantly different from 'capital' has a new relevance today. Some of that is simply because thanks to the environmentalist movement we care about natural resources in a way that the public figures of the high industrial revolution didn't. But it's also because, paradoxically, the rapid fall in transportation and communications prices has made location matter more than ever. Digital communication turns out to be more of a

complement to than a substitute for face-to-face communication." – Matthew Yglesias[2309]

"All teachers of natural law, etc., have unanimously declared that the differentiation into income-receiving classes and propertyless classes can only take place when all fertile lands have been occupied. For so long as man has ample opportunity to take up unoccupied land, 'no one,' says Turgot, 'would think of entering the service of another;' we may add, 'at least for wages, which are not apt to be higher than the earnings of an independent peasant working an unmortgaged and sufficiently large property;' while mortgaging is not possible as long as land is yet free for the working or taking, as free as air and water." ... "Since land could not, have acquired 'natural scarcity,' the scarcity must have been 'legal.'" – Franz Oppenheimer, The State (1908, p. 9-10 & 14)

"What we call real estate – the solid ground to build a house on – is the broad foundation on which nearly all the guilt of this world rests." – Nathaniel Hawthorne, The House of Seven Gables

"Woe to you who add house to house and join field to field till no space is left and you live alone in the land." – The Bible, Isaiah 5:8.

4.3.1.2 Land Value Taxation – Preventing Underusage, Extortion and Bubbles

In short:

- ***Private ownership (control) of real estate has its benefits, but taxing its location value (land) heavily – over 10 % of market value – is necessary to prevent unproductive, opportunistic hoarding and underutilization, which sustain real estate bubbles and other market inefficiencies. Paradoxically, higher land taxation can lower living expenses.***

"Tax something, there will be less of it – except land." – Lowell C. Harriss (Cohen & Coughlin 2005, p. 364)

"In my opinion, the least bad tax is the property tax on the unimproved value of land, the Henry George argument of many, many years ago" – Milton Friedman[2310]

"The property tax is, economically speaking, a combination of one of the worst taxes – the part that is assessed on real estate improvements... and one of the best taxes – the tax on land or site value." – William Vickrey, "Land-value taxation: The Equitable and Efficient Source of Public Finance" (Wenzer 1999, p. 17)

"[T]he existing land-tax (which in this country unfortunately is very small) ought not to be regarded as a tax, but as a rent-charge in favour of the public; a portion of the rent, reserved from the beginning by the State, which has never belonged to or formed part of the income of the landlords, and should not therefore be counted to them as part of their taxation, so as to exempt them from their fair share of every other tax." ... "That a person owns part of the rent, does not make the rest of it his just right, injuriously withheld from him." – John Stuart Mill, Principles of Political Economy (1848, Book 5, Ch. 2, Sec. 6)

The obvious solution to the land monopoly issue is to tax the location value of real estate at a rate notably higher than any possible negative real interest on deposits – a land value tax (LVT). (More speculation on the optimal LVT rate in: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?")

Due to the monopoly nature of land ownership, Adam Smith himself advocated land taxation:

> "Ground-rents are a still more proper subject of taxation than the rent of houses. A tax upon ground-

2309 Yglesias, Matthew, "Classical Economics, Now More Than Ever", Slate.com, MoneyBox blog, 10th May 2013, cited 17.6.2013, http://www.slate.com/blogs/moneybox/2013/05/10/back_to_the_classics.html

2310 "Milton Friedman Interviewed", The Times Herald, 1st Dec 1978, cited 9.7.2013, http://www.cooperativeindividualism.org/friedman-milton_interview-1978.html

> rents would not raise the rents of houses. It would fall altogether upon the owner of the ground-rent, who acts always as a monopolist, and exacts the greatest rent which can be got for the use of his ground." (Adam Smith 1776, p. 692)

The distinction of land from other capital was a major subject of debate among the classical economists of the 19th century, many of whom saw land taxation as the ideal. Land taxation is also popular among 20th century economists. Even Milton Friedman, a libertarian opposing most kinds of state intervention (including central city planning[2311]) and taxation, agreed that land value taxation is "the least bad tax". (Cohen & Coughlin 2005, p. 359)

As the most extreme case, Georgism – named after Henry George – suggests a "single tax policy" where land taxation (of almost 100 % of its unimproved value) is the only source of public revenue.

Henry George argued that such a tax would not raise rents: It would fall entirely on the land owner. This is a fairly obvious microeconomic conclusion: When supply is limited (its price elasticity is zero), demand (how much buyers are willing to pay) determines prices.[2312] And an LVT does *not* increase anyone's willingness or ability to pay higher rents.

> "Nor, if a tax be levied on that rent or value, this in no wise adds to the willingness of anyone to pay more for the land than before; nor does it in any way add to the ability of the owner to demand more. To suppose, in fact, that such a tax could be thrown by landowners upon tenants is to suppose that the owners of land do not now get for their land all it will bring; is to suppose that, whenever they want to, they can put up prices as they please.
>
> This is, of course, absurd. There could be no limit whatever to prices did the fixing of them rest entirely with the seller." (George 1887)

This has also been observed in practice. For example, property tax reliefs for "Enterprise Zones" in the UK were almost fully captured by property owners as higher rental income. (CE 2008; Bond, Tyler & Gardiner 2011) And the same applies also to public accommodation subsidies paid to tenants: they mainly serve to raise rents and hence the market values of real estate.[2313]

Does the government have a "right" to tax land – the location of real estate? Actually, it is hard to find anything that the government would have more of a "right" to tax (except maybe the monetary system). Taxing something could be seen as analogous to charging a lease fee ("rent" in common speech) on it and thereby implies laying a partial claim of "ownership" on the object of taxation ("right to the income of it"). In this light, the government taxing work and consumption can be considered quite funny – as if the government owned people's interaction[2314] or their personal capabilities (competence capital). It makes much more sense to claim that the government owns the monetary system, which justifies taxing the holding of money itself (especially bank deposits the government guarantees) instead of transactions conducted using money.[2315]

And the government, finally, "owns" all the land: Looking back at the classifications of different kinds of rights that can be included in "ownership"[2316], we can infer that hardly any country allows "complete" private ownership of land – or the space above it. If you really, fully owned the land, you should be able to set the laws to follow on that land (part of the "right to manage"). Not only are you not allowed to do that, but centrally planned zoning dictates what you can and cannot do *with* that piece of land: what you can build on it and often what businesses you can operate on it. Therefore, the landowner's "right to use" is also limited. Thus, the government and municipality partly own the land in the current system as well – the "landowner" just possesses the right to use it for a limited range of purposes as well as the rights to its income (crops, rents, accommodation it provides etc.) and capital (composed of the present value of that expected income). Thus the government could also tax this "right of use", i.e. reduce the owner's right to "the income of the thing". This makes in many ways far more sense than taxing the work we do and the trade we conduct, which should by no means belong to the government.

So, how should such a land value tax be implemented? In most countries, the "real estate tax" or "property tax" – it has many names – is already based on the market value of the real estate and it is usually levied separately on land and buildings. In many Western countries, however, the tax is around the same for both land and buildings. It would be worth reconsidering this policy, as the incentive effects of taxing land versus taxing buildings is very different. As William Vickrey writes:

> "The property tax is, economically speaking, a combination of one of the worst taxes – the part that is assessed on real estate improvements … and one of

2311 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".
2312 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
2313 See: "4.3.1.6 Case: Helsinki Metropolitan Region".
2314 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".
2315 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
2316 See: "1.1.7 Ownership as a Bundle of Rights".

the best taxes – the tax on land or site value." (Wenzer 1999, p. 17)

As explained, taxing land can encourage building, while taxing buildings is likely to discourage it.[2317] Taxing buildings is comparable to taxing consumption – like the value added tax (VAT) or goods and services tax (GST, e.g. in Australia). It taxes "accommodation and facilitation services", except that it taxes the buildings (i.e. the capital used to produce those services) regardless of whether they are occupied or unoccupied.[2318] Taxing land could also be considered a Pigovian Tax on the negative externality effects of the underutilization of land and preventing others from using it.

So, what are the negative externality effects of *owning* land? As land is a limited resource – that locally has no substitutes – keeping it out of others' use imposes costs on them. Roope Luhtala, a friend of mine, used the following analogy to clarify this: Consider a situation where two ships approach an uninhabited island. The crew of ship A intends to cover the island with toxic waste leaving it unusable for 20 years (though causing no permanent environmental damage), and the crew of ship B intends to take ownership of the land on the island and only start selling or renting it for use in 20 years' time. Which one would you prefer to reach the island first? Note that if it were the toxic ship you at least wouldn't have to pay for the land in 20 years' time. In both cases, the land is unusable to you or anyone else for the next 20 years and you cannot build another island in the same location to replace it or compete with it.

It is excluding and depriving others of the use of land that has the biggest negative externality costs! Using the land efficiently according to zoning[2319] more often has *positive* externality effects (compared to leaving it unused) in the longer run, as the resulting higher population density facilitates more economic interaction and increases the benefits of scale for both private and public services, including infrastructure investments.[2320]

Currently, a real estate tax can be based on (1) market value, (2) rental value or (3) land/building area. For the purposes of avoiding hoarding, determining the tax according to market value is clearly the optimal choice, as the market value – what others would be ready to pay for it – best represents the opportunity cost (and hence the negative externality cost) of others not being able to use that land for something else. This makes it unprofitable to keep desirable lots and pieces of real estate in suboptimal use.

Although they didn't have the concept of negative externalities, many classical economists such as David Ricardo – who regarded rent as a parasitic charge upon production – suggested taxing the rental value of land, disagreeing with Smith, who only suggested taxing the actually charged rents. Smith didn't consider it just to tax unoccupied houses for which the landlord didn't receive any rent.[2321] (The difference between *rental value taxation* and actual land value taxation as well as why rental value taxation is not enough to prevent land from becoming very speculative at low interest rates is explained in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".)

Some countries, like Finland, have seen this potential of using real estate taxation to increase land utilization, and the government has allowed municipal authorities to tax undeveloped real estate (i.e. unbuilt lots) at a higher rate (1-3 %, compared to a general real estate tax tax rate of 0.8-1.55 %, and a tax for permanent residential buildings of 0.37-0.8 %[2322]). However, this kind of incentives – like construction orders at threat of confiscation by local municipalities – give large real estate developers and investors the incentive to underutilize the land, e.g. build slower or construct a two-floor building, where zoning would allow a skyscraper, and such maneuvers increase the costs of further development.[2323] (Lyytikäinen 2007)

A warning example of the harmful effects of such tax discrimination can be seen in Greece where unfinished buildings have earlier been exempted from the real estate tax for seven years after the construction permit has been

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2317 On how property taxation can be used to influence land use and development, see: OECD 2010, p. 157.

2318 See: "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".

2319 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

2320 See: "Sidenote Box 4311A: Components of Location Value".

2321 "Houses not inhabited ought to pay no tax. A tax upon them would fall altogether upon the proprietor, who would thus be taxed for a subject which afforded him neither convenience nor revenue. Houses inhabited by the proprietor ought to be rated, not according to the expense which they might have cost in building, but according to the rent which an equitable arbitration might judge them likely to bring if leased to a tenant." (Smith 1776, p. 692)

2322 "Rakentamattoman rakennuspaikan veroprosentti", vero.fi, 12th Jan 2011, cited 27.8.2013, http://www.vero.fi/fi-FI/Syventavat_verohjeet/Kiinteistoverotus/Rakentamattoman_rakennuspaikan_veroprose(12393)

"Kiinteistöveroprosentit", vero.fi, 17th Aug 2010, cited 20.3.2015, http://www.vero.fi/fi-FI/Henkiloasiakkaat/Kiinteistovero/Kiinteistoveroprosentit(9216)

2323 There is already some evidence of less efficient land use from Finland.

"[T]he results for all housing project starts provide some evidence that development density might have decreased attenuating the effects of faster development." (Lyytikäinen 2007, abstract)

It is also noteworthy that the tax has mostly affected single-family apartments...

"A large share of apartment blocks and row houses are government-subsidized and are also more often built on lots rented from the municipality than single-family units." (Lyytikäinen 2007, p. 32)

...and that the rents that the municipality charges for lots are seldom based on the full value of the location (see: "4.3.1.4 The Pure Lease Alternative's Problems – Land Value Is Location Value of Real Estate").

granted. This naturally encourages constructing buildings that look like they are going to have yet another floor built on them later. (Brown & Hepburn 2002, p. 184)

Taxing all land equally according to market value at a sufficient rate[2324] (at least offsetting any possible negative interest rates) would ensure land is kept in the most productive use available – including finishing buildings on schedule.

4.3.1.3 Practical Challenges: Fair Valuation and Assessment of the Replacement Costs of Improvements and Other Owner-Created Value

In short:

- *The biggest practical challenge with LVT is fair and reliable assessment of land value, which requires (1) determining an up-to-date market value for the whole piece of real estate and (2) assessment of how much of this value is created by the developer.*
- *Removing all subsidies on homeownership could make the real estate market much more efficient, providing better real time market information, which would allow much more reliable statistical methods for determining both of the above values.*
- *Brand value is one of the most difficult components to discern from location value and requires comparisons with surrounding land prices.*
- *Additionally, construction and renovation expenses as well as assessments by home insurance companies can be used as proxies in determining replacement costs, but there are incentive traps and rooms for fraud in relying on them fully.*

> "There still exist some organized groups who contend that all these difficulties could be solved by the adoption of the 'single-tax' plan... If the factual assumptions on which it is based were correct, i.e., if it were possible to distinguish clearly between the value of 'the permanent and indestructible powers of the soil,' on the one hand, and, on the other, the value due to the two different kinds of improvements – that due to communal efforts and that due to the efforts of the individual owner – the argument for its adoption would be very strong. Almost all the difficulties we have mentioned, however, stem from the fact that no such distinction can be drawn with any degree of certainty." – Friedrich A. Hayek, The Constitution of Liberty (1960, pp. 352-353)

> "I admit that it would be unjust to come upon each individual estate, and lay hold of the increase which might be found to have taken place in its rental; because there would be no means of distinguishing in individual cases, between an increase owing solely to the general circumstances of society, and one which was the effect of skill and expenditure on the part of the proprietor. The only admissible mode of proceeding would be by a general measure." – John Stuart Mill, Principles of Political Economy (1848, Book 5, Ch. 2, Sec. 5)

The biggest (valid) concerns with and objections to real estate taxes are related to the fairness and reliability of the methods used to determine the value of real estate. Real estate does not exchange hands every year and therefore valuation tends to be dependent on individual human judgment. Unfair practices and cases of corruption are the main factors making the real estate tax one of the most hated taxes in the U.S..

Also, as land is seldom sold alone from underneath buildings, the value of the land (the location value of the real estate)[2325] is essentially determined by subtracting the estimated replacement cost of the building from the market price of the whole piece of real estate, and, in two-rate taxation, determining the replacement costs fairly and accurately is another challenge. (Cohen & Coughlin 2005, p. 360)

E.g. Austrian economists Friedrich A. Hayek (1960, pp. 352-353) and Murray N. Rothbard emphasize the impossibility of any assessor to make a fair assessment of market value.

> "How will the annual tax on land be levied? In many cases, the same person owns both the site and the

2324 See: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

2325 See: "4.3.1.4 The Pure Lease Alternative's Problems – Land Value Is Location Value of Real Estate".

man-made improvement, and buys and sells both site and improvement together, in a single package. How, then, will the government be able to separate site value from improvement value? No doubt, the single taxers would hire an army of tax assessors. But assessment is purely an arbitrary act and cannot be anything else. And being under the control of politics, it becomes purely a political act as well. Value can only be determined in exchange on the market. It cannot be determined by outside observers." (Rothbard 1977, p. 296)

Here (for once) Rothbard has a valid point. Land value taxation has to be based on market information with as little room as possible left for the consideration of any assessor or other human judgment. This is also necessary to minimize corruption and regulatory capture.

In Henry George's model, the land valuation problem was solved by letting every owner value her own real estate and be required to sell it at that price to any willing buyer. In theory, this solution is almost perfect: Undervaluing one's real estate would increase the risk of losing that real estate and therefore such a valuation method would keep all land in the most valuable use available.

In practice, two troubles here are the relatively high transaction costs of moving and the fact that people become emotionally attached to their apartments. A wealthy enemy could – out of pure malice or to gain leverage in another negotiation – buy you out of your house (or threaten to do so), even at a loss, as this would impose an even bigger cost on you. Such fears could require some disliked or powerful people to pay ridiculously high taxes (beyond the actual market value) for their apartments only to avoid losing their family home or having to move all the time. The same applies to office premises and other business and industry facilities: Companies could conduct "hostile takeovers" of their competitors' premises just to damage the competitors' operations.

The inverse model seems much more fair in practice: Instead of forcing owners to sell apartments or facilities to any willing buyer, it would be more humane to adjust valuations according to any outstanding offers on apartments and oblige the highest bidder to buy if the seller agrees to sell at the offered price.

Using the resulting offers on all similar apartments in the same area, a statistical average could be set to determine a minimum and maximum amount for the actual taxable value of individual apartments – eliminating the effect of "hostile offers." The value of a lot is largely dependent on (1) the attractiveness of the location[2326] and (2) what kinds of uses its zoning allows. Therefore, any real estate transactions and outstanding offers in an area can be used to readjust the value of all real estate in that area. If there happen to be unbuilt lots in the area, the offers out on these give a good reference point for the value of other land, but even in their absence, algorithms can be used to determine the prices of hypothetical unbuilt lots of different building rights based on the prices of different kinds of real estate in the area.

Of course, this leaves the challenge of determining the value ratio between apartments e.g. facing different directions and on different floors in the same building. Penthouses and seaside apartments tend to be valued much higher than ground floor apartments – and such valuation differences are of course very subjective and possibly volatile.

But on the other hand, in a market where homeownership isn't unnecessarily subsidized with any tax benefits compared to living on rent (as it now is in many countries[2327]), a majority of real estate would likely be owned by investment companies and funds (rather than the occupants). The competition between these over the most profitable pieces of real estate would likely provide a far more versatile and regularly updated range of offers on all real estate on the market, making market values follow rental prices much more closely. In this situation, it would likely be whole apartment buildings (or fungible shares in them) that are traded, instead of individual apartments, reducing the problem with valuing apartments on different floors and facing different directions.

What about the replacement cost? One might expect that the case would at least be simple for recently built apartments, offices and other facilities: "Just use the construction costs." And for older buildings? The relevant replacement costs, of course, are the *current* replacement costs. Therefore, replacement costs determined according to historical construction and renovation expenses need to be adjusted with time according to (1) changes in the construction cost index, which is affected by productivity development and changes in the price of construction work and materials, as well as (2) the deterioration/depreciation of the building.

However, there is a notable incentive trap when the construction contractor is the same company as the real estate developer – the owner of the real estate – or involved in other business relations with it. When a construction company owns the real estate it is developing, it has every incentive to exaggerate the construction costs involved and include in them as much of its overhead costs (and of the costs of other businesses it might have) as possible to make it seem as if a bigger part of the value of the

2326 See: "Sidenote Box 4311A: Components of Location Value".

2327 See: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?" and "4.3.1.6 Case: Helsinki Metropolitan Region".

developed real estate is the result of development – in order to make the piece of real estate cheaper to hold for potential buyers.

So, a first rule would be that the construction expenses reported by (or paid to) the construction contractor cannot be trusted to represent the true replacement costs if the contractor might in any way be affiliated with the current owner of the real estate. The same applies to renovation work. With renovation work made by the owner – and not a subcontracted that can be considered impartial – the increase in the value of a building can't be trusted to equal reported renovation expenses.

In controlling for fraudulent reporting of construction and renovation expenses (to raise the official replacement costs in order to avoid location value taxation) and errors in assessing the deterioration of buildings, there might be some synergies with insurance companies. Home insurers should, in principle, only value and cover for the buildings, as the location value of the real estate isn't destroyed when an individual building burns down or is flooded. Technically, nothing prevents insurers from insuring assets for more than their actual replacement cost (as e.g. some car insurers tend to do), but if they do so, they also have to charge higher insurance payments to keep their business profitable. If replacement costs were purely determined by insured values, would it be profitable for homeowners and real estate investors to pay higher insurance fees in order to avoid land value taxes? Likely yes, as insurance payments are far lower than the suggested taxes on location value (10 % or more). Therefore, blindly trusting the figures given by individual home insurers is not a bulletproof solution either.

However, if homeownership weren't subsidized compared to living on rent[2328] and we had an efficient real estate market with real estate investors constantly having offers open on most properties, a third solution – and probably the fairest in that it would not reward inefficiency in construction work – would be to use the relative changes in these prices to determine the effect that a renovation project or greenfield real estate development project had on its value. The market prices (outstanding offers) before and after the development (real investment) would be compared and controlled for changes in the market prices of similar, undeveloped apartments or buildings in the region, which would serve to indicate how much of the increase in value of the developed apartment was the result of the rise in location value and how much due to the real investment. Any previously empty lots or lots with buildings planned to be razed off them (for e.g. redevelopment) could be subjected to an open auction, allowing for "recalibration" of land values in the area.

But is there value other than location value that a building can gain without physical development? Unfortunately yes: brand value. And this is the most difficult kind of value to discern in the case of individual pieces of real estate. Accommodation and office buildings can gain a status and reputation, which increase the rents that occupants are willing to pay for them, but the problem is even more salient in developments made for special purposes and where the service provided is strongly dependent on the specific piece of real estate. Say, for example, that you build a spa (or theme park or casino etc.) almost in the middle of nowhere. You might pay next to nothing for the lot and then invest $10M in building the spa. Others might consider this a risky investment and no one would make any offers on the spa for more than $9M. Thus the LVT for the real estate would be $0 (as land value, market value minus construction costs, is negative). But with a $1M investment in marketing during a year (with no further construction), the spa might become very popular among wealthy people and start generating high profits. As the spa business is strongly dependent on the specific piece of real estate, competitors or other investors could practically take over the *business* by simply buying the real estate from you. (Of course, they might have to rehire the personnel, but that could be a less critical added value factor or competitive advantage than the physical spa itself.) Hence, offers on the spa might rise to $25M. This added value of $14M is *not* location value created as a "positive externality" by the surrounding community, as the spa is still located "in the middle of nowhere". It is brand value built by the spa owner.[2329] It makes little sense to charge the spa owner an LVT for the $15M by which the market value of the spa building exceeds the value increase during construction. The possibility of such penalization would harmfully disincentivize the marketing of any businesses or real estate and hence many kinds of productive real investment.

The above case example (together with the possibility of "hostile offers") emphasizes the importance of statistical methods and comparisons with surrounding lots in determining how much of any increase in the price of a piece of real estate is actually location value. In the case of the spa, the price of an adjacent lot would not have changed even remotely as much because of the business potential in the spa itself, which would show that the increase is not a matter of location.

Of course, as explained in "Sidenote Box 4311A: Components of Location Value", the reputation – "brand" – of a whole region might increase, but this *can* be

2328 See: "4.1.3.3 Other Ways of Encouraging Giving Work to Investors, Spenders and the Indebted?" and "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".

2329 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

considered location value. Such a status is seldom caused purely by an individual development. When a developer can expect his investments to raise the value of adjacent land (e.g. when Disney constructs Disney World), it is probably worth it for him to buy up a larger area of land before making the investment decision and then, after his investment decision, sell off at a higher price the bits he does not intend to develop himself. A 10 % LVT would still leave almost half of any land value (and increase thereof) to the owner, but make it unprofitable to keep it out of productive use for a longer time.

To sum up, land value should not be determined purely based on the market price of the individual piece of real estate, but as a weighted average of (or using another algorithm taking in) the highest offers on similarly zoned pieces of real estate in the same region – making considerations for special attraction features (e.g. a river, a beach or exceptionally good views). This would maintain the incentive of any individual developer and investor to maximize the market value of their own real estate, regardless of the means.

But these are only the best options this book comes up with. Land valuation (and the details of LVT in general) is surely an area in economics where lots of (pun intended) creative solutions and innovation is necessary. Competing governance forms – e.g. charter cities or mostly autonomous states within federations[2330] – could allow experimenting on different alternatives and letting people choose the ones they consider most fair.

As Friedrich Hayek notes, the biggest challenge with land value taxation is the difficulty "to distinguish clearly between the value of 'the permanent and indestructible powers of the soil,' on the one hand, and, on the other, the value due to the two different kinds of improvements – that due to communal efforts and that due to the efforts of the individual owner". (Hayek 1960, pp. 352-353) However, it is not necessary to distinguish between value resulting from public investments and value resulting from general economic development (or the "powers of the soil"), as long as public investments are approximately known before the land is sold to any private developers. The biggest challenge is in determining the value created by the real estate owners' own development efforts, as explained in this chapter.

In any case, changes in both municipal investment plans and zoning can cause both windfall profits and losses to real estate owners – and they can do even more so in the current situation with no significant land value taxes. This is why zoning and public investment plans need to be predictable and there should be a system for compensating and charging for land value impacts of changes made to the plans.[2331]

2330 See: "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".

4.3.1.4 The Pure Lease Alternative's Problems – Land Value Is Location Value of Real Estate

In short:

- ***It is practically not possible to sell or lease "location" without the fixed buildings constructed and other improvements made on that location. If the location and the buildings were sold separately, the location owner (or leaseholder) could rob the building owner of his capital by raising rents high enough. As a result, no one would dare to build on land owned by someone else.***

Another suggested solution to the monopoly nature of land would be simply to remove private land ownership altogether: The government or municipality would own all land and lease to homeowners, real estate developers or investors. E.g. Silvio Gesell proposed full state ownership of all land (*"freiland"*, Gesell 1916, Part 2)

The difference between this and higher land taxation is notable, but not dramatic – in theory. Looking back at Tony Honoré's classification of rights included in ownership:

1) the right to possess
2) the right to use
3) the right to manage
4) the right to the income of the thing
5) the right to the capital
6) the right to security
7) the right of transmissability
8) the right of absence of term
9) the duty to prevent harm
10) liability to execution and
11) the incident of residuarity. (Honoré 1987)

In a switch to the lease model from very highly taxed ownership, private users of land would lose their rights to "transmissibility", of "absences of term" and of "residuarity". The "rights to use", "to manage" and "to the income of the thing" would not change much.

In practice, however, leasing land without the buildings is very problematic. If buildings could be costlessly teleported from one place to another (or if they could

2331 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

"lift off" and land again in other places like some Terran buildings can in the real time strategy game Starcraft), we could have a very efficient land-lease-based real estate market and an urban structure that constantly evolves to suit the demands of its citizens and businesses. But, in reality, moving real estate developments is seldom feasible.

If a private investment company owns the land on which you've built a house (or holds the lease from the government for it), what limits how much the investment company can charge rent from you? As you cannot move your house anywhere else and the construction costs are sunk costs, the (monopolist) lessor would be in a position to rob you of all of the capital of your house (the income it can generate),[2332] simply by raising the rent on the land to what anyone would be willing to pay to live in the house. This, together with the ability of anyone to buy (or lease from the government) land from "underneath" any building would kill the incentives for all real estate development (for anyone not owning the land as well).

Also Silvio Gesell emphasized the importance of the leaseholder having assurance that his lease won't be cancelled, so that he dares invest in improvements on the land. As one solution to this issue and the incentive for lease holders to "impoverish the soil"[2333] he suggested making the lease lifelong.

> "After the land has been nationalised it will be divided according to requirements of agriculture, housing and industry, and leased by public auction, for terms of 1, 5, 10 years, or for life, to the highest bidders." ... "But in any case exhaustion of the soil by the tenants can easily be prevented. The tenant can be given a lease of his farm for life." (Gesell 1916, Part 2, Ch. 3)

How could the lease on the land possibly follow a fair market price with such fixed leases? Also in reality, governments or municipalities own lots and lease them to homeowners, real estate developers or condominiums. E.g. in Hong Kong, the Chinese government officially owns all land, but lease periods are relatively long and have fixed rents,[2334] and hence the costs to the leaseholders don't follow the market value of the location. The owners of the real estate still receive the gains from increases in location value. The leaseholders or apartment share owners in condominiums (if the condominium has a direct lease from the government) end up being the *de facto* landowners. And setting such public leases of land leave lots of room for corruption and bias.

Gesell's solution – which is clearly more designed for agriculture than for growing urban areas – seems to also require price regulations and other state intervention in the market:

> "The leaseholders will be given certain securities for the stability of the economic factors upon which they base their offer, so that they cannot be crushed by their contract. This object could be achieved by the guarantee of minimum prices for agricultural products, the currency being adapted to these prices; or by reduction of the rent in case of a general rise of wages. In short, as the purpose of the reform is not to harass the farmer, but, on the contrary, to create and maintain a flourishing state of agriculture and a healthy farming class, everything possible will be done to bring the yield of the soil and farm-rent into permanent agreement." (Gesell 1916, Part 2, Ch. 3)

The location and improvements together determine the market value of any piece of real estate and you cannot really lease or buy a *location* without its fixed improvements.

With no right to the income or capital of the thing and no incident of residuarity, there would be little incentive to improve land – especially in ways that don't count as "construction". Such actions might include removing large rocks and boulders to flatten it for construction, planting trees for future forestry gains in a more rural region, or finding better uses for the location or the natural resources on it (although Bryan Caplan's[2335] example that a high land value tax would decrease incentives to search for oil might not be a very appealing argument in many environmentalists' ears[2336]).

Although the value of location is largely determined by what can be found around it, also the owner can affect location value, especially if he owns a larger area. Residuarity and transmissability – i.e. that the real estate owner can keep a small part of the value of the location – together with some income from the location value give the owner every incentive to keep the location in as good a condition as possible and to ensure that his developments are beneficial for the value of the whole region. E.g. a large real estate developer might actually be inclined to build infrastructure and recreational areas on

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2332 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2333 "Leasehold tenure has been objected to on the ground that the tenants will be more inclined to impoverish the soil than the present owners who are personally interested in keeping the soil in good condition. The leaseholder, it is said, squeezes everything out of the soil and then moves on." (Gesell 1916, Part 2, Ch. 3)

2334 "Basic knowledge of land ownership in Hong Kong", Community Legal Information Centre, cited 3.9.2013, http://www.clic.org.hk/en/topics/saleAndPurchaseOfProperty/basic_knowledge_of_land_ownership_in_hong_kong/

2335 Caplan, Bryan, "A Search-Theoretic Critique of Georgism", Library of Economics and Liberty, 14th Feb 2012, cited 5.6.2013, http://econlog.econlib.org/archives/2012/02/a_search-theore.html

2336 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

his own expense in order to increase the value of his other developments – not having to leave these completely on the responsibility of the municipality.[2337] This incentive for owners to maximize location value while keeping underusage unprofitable (together with the obvious room for corruption in public leases) is what makes a 10-25 % tax on the location value of real estate look like a much better solution than the public lease model.

4.3.1.5 Other Objections to and Concerns with Land Value Taxation

In short:

- *Most other objections to LVT are either ideological (and often self-contradictory) or political, related to fears of wealth transfers or losing achieved privileges.*

One objection to land value taxation is that it allows affecting land prices (the market value of real estate) through politics. This is a valid argument at least against the extreme "one tax" model and current interest-group-oriented politics focused on income and wealth transfers.[2338] Continual, unpredictable adjustments in the tax affecting land values cause speculation and unfair windfall profits in the real estate market.[2339] This is a valid argument for keeping the land tax as constant as possible, and adjusting public revenues rather with other taxes.[2340]

Also, it is noteworthy that as long as the LVT remains at a level high enough to make hoarding land – holding it without using it for anything productive – clearly unprofitable (in which case the tax does not affect the amount supplied to productive use), then smaller changes in the land tax should not affect the tradable price of land even closely as much as bursting the current bubbles resulting from hoarding would.

Other "long-term objections" to land taxation are mainly ideological or based on some rather unrealistic assumptions. E.g. Murray N. Rothbard insists that any privately owned land being kept idle can only mean that it is waiting for more productive future uses due to high "change-over costs":

> "The speculative site-owner is, then, performing a great service to consumers and to the market in not committing the land to a poorer productive use. By waiting to place the land in a superior productive use, he is allocating the land to the uses most desired by the consumers." (Rothbard 1962, p. 571)

Rothbard insists that the landowner cannot reap unearned profits by keeping the land idle.

> "Even if a speculator reaps an 'unearned increment' of capital value by holding land as its price rises, he can gain no such increment by keeping land idle. Why shouldn't he use the land and earn rents in addition to his capital gain? Idle land by itself cannot benefit him." (Rothbard 1997, p. 300)[2341]

As Rothbard says, adjustments in market value keep land just as profitable an investment option as any other asset.

> "As a matter of fact, the landowner does not reap as much reward as the laborer from a progressing economy. For landowning is a business like any other, the return from which is regulated and minimized, in the long run, by competition. If land temporarily offers a higher rate of return, more people invest in it, thereby driving up its market price, or capital value, until the annual rate of return falls to the level of all other lines of business. The man who buys a site in mid-Manhattan now will earn no more than in any other business." (Rothbard 1997, p. 300)

With his rhetoric, like a magician, Rothbard flashes the income effect of *the rise itself* (the "capital gains") in front of the reader's eyes and immediately hides them into his sleeve. Rothbard also ignores the fact that a significant landowner has a local monopoly position and can gain *higher* total rents by keeping part of the land out of use. This alternative is the most *profitable* option for the site owner but by no means the most *productive* for the whole economy: While he reaps additional profits, he is imposing externality costs on the rest of the economy. Rothbard(ians) should read "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable" with thought.

Just like with the adjustments in the value of money[2342] Rothbard's logic works in a weird world of *statics* in which any *expectations of changes* in market value cannot affect

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2337 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".
2338 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
2339 See: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".
2340 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".
2341 Even more interestingly, Rothbard concludes that land lying idle is evidence of labor being scarce relative to land:
> "Well, what about idle land? Should the sight of it alarm us? On the contrary, we should thank our stars for one of the great economic facts of nature: *that labor is scarce relative to land*. It is a fact that there is more land available in the world, even quite useful land, than there is labor to keep it employed. This is a cause for rejoicing, not lament." (Rothbard 1997, p. 297)
2342 See: "2.2.2.1 A Single Precious-Metal-Standardized Currency".

people's choices. Rothbard frames early buyers of real estate as being more "farsighted" than others[2343] – when, in practice, the most valuable locations are usually owned by the ones whose ancestors happen to have been wealthy enough to acquire them. Tough luck for those who weren't "farsighted" enough to be born heirs of a nobleman.

Additionally, Rothbard seems to be a little confused over whether land ownership is really ownership of the soil or ownership of location.[2344] As discussed before, land ownership is actually ownership of location or "space", which can be defined according to landmarks (or magnetic coordinates). Full "land ownership" (as it is considered e.g. in anarcho-capitalism) is essentially a right to aggress against "trespassers" in that space, i.e. a local monopoly on violence. This kind of private land ownership in general is a severe violation of the non-aggression principle Rothbard supports.

> "The fundamental axiom of libertarian theory is that no one may threaten or commit violence ('aggress') against another man's person or property. Violence may be employed only against the man who commits such violence; that is, only defensively against the aggressive violence of another. In short, no violence may be employed against a nonaggressor. Here is the fundamental rule from which can be deduced the entire *corpus* of libertarian theory." (Rothbard 1963-2, p. 1, *italics* in original)

If space, defined by e.g. using a river or fence as a reference point, can be owned, then can't I alternatively declare, as locations are relative, that I own a space of one cubic kilometer using myself as the reference point, and hence give myself the right to commit aggression towards everyone in the range of my sight?

The taxation of land can clearly be justified starting from the consequentialist libertarian premise of protecting everyone's right "to do as one pleases, as long as one does not hamper others' chances to do the same",[2345] which is probably also what Henry George meant by "*laissez-faire* (in its full true meaning)" (George 1912, p. 14). As explained in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land", the completely private, untaxed ownership of a limited, vital resource – which land is – allows preventing others from exercising their freedom.

So, even from a perspective of "natural rights" based on self-ownership, ownership of location is hard to justify. And if we are to take a deontological approach, many people would rather subscribe to other kinds of "natural rights", such as the right to enjoy the products of one's own labor, instead of rights to own (without term) anything that one first "homesteads":

> "The question of justice now naturally arises, and the inquiry passes into the field of ethics. An investigation of the nature and basis of property shows that there is a fundamental and irreconcilable difference between property in things which are the product of labor and property in land; that the one has a natural basis and sanction while the other has none, and that the recognition of exclusive property in land is necessarily a denial of the right of property in the products of labor." (George 1912, p. 13)

Rothbard draws the exact opposite conclusion:

> "The single taxers cannot have their cake and eat it; they cannot permit a man to own the fruits of his labor while denying him ownership of the original materials which he uses and transforms. It is either one or the other. To own his product, a man must also own the material which was originally God-given, and now has been remolded by him. Now that his labor has been inextricably mixed with land, he cannot be deprived of one without being deprived of the other." (Rothbard 1997, p. 304)

Most of Rothbard's valid criticism is directed at a 100 % tax on *land rent*. Leaving no return for location value to the landowner would leave him no incentive to optimize the use of the location.[2346] It would also be difficult to determine the value of land accurately and objectively when land value would not be notably reflected in market prices. These arguments don't apply to a 5-15 % tax on *land value* (LVT), which still leaves the holder every incentive

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2343 "Thus, the only landowners who reap special gains from progress are the ones more farsighted than their fellows – the ones who earn more than the usual rate of return by accurately predicting future developments. Is it bad for the rest of us, or is it good, that sites go into the hands of those men with the most foresight and knowledge of that site?" (Rothbard 1997, p. 302)

2344 "In brief, the inevitable result of a single tax would be nothing less than locational chaos. And since location – land – must enter into the production of every good, chaos would be injected into every aspect of economic calculation." (Rothbard 1997, p. 299)
"For one thing, land is a fixed quotal portion of the earth, and therefore the ground land endures virtually permanently." ... "For we have seen that title to an unowned resource (such as land) comes properly only from the expenditure of labor to transform that resource into use. Therefore, if any land has never been so transformed, no one can legitimately claim its ownership." (Rothbard 1998, Ch. 10)
Can a location owner use his labor to transform location? And if land ownership for Rothbard is really ownership of the soil, you could troll a Rothbardian by building a roof arching over his field or backyard. There would be no limitations to flying or hovering over someone's land.

2345 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

2346 "He must also decide which use the land will best satisfy. In doing so, he also insures that each use is situated on its most productive *location*. A single tax would utterly destroy the market's important job of supplying efficient locations for all man's productive activities, and the efficient use of available land.
A 100 percent tax on rent would cause the capital value of all land to fall promptly to zero." (Rothbard 1997, p. 297)

to find better uses for the location and to charge as much rent for the location as he can. An owner and developer of a larger area will also continue to have the incentive to take into consideration the effects of his activities on the development and value of the whole area. The difference between the effects of land *rent* taxation and land *value* taxation is discussed further in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

The biggest practical challenge in making the (democratic) decision to *implement* a land value tax is probably the political controversy and objection due to vested interests of real estate owners in sustaining current "real estate wealth".[2347] Implementing such a tax – at least quickly – might cause "adverse wealth effects" to owners of significant amounts of land and real estate (Cohen & Coughlin 2005, p. 360).

However, the bigger the bubble is allowed to continue to grow, the bigger the risk of a catastrophic collapse. When real estate prices are based on a constant rise in rents and hence land values – and especially if this results in speculative hoarding of real estate – a small change in the expected *rise rates* of those rents (due to e.g. changes in economic growth estimates) can cause the bubble to burst violently. And as long as such a collapse doesn't occur (if the bubble is sustained e.g. through a diligently maintained construction cartel[2348]), the rising real estate prices and rents relative to construction costs are a constant transfer of income and wealth – for which there really is no justification – to real estate owners from the rest of the rent-paying population. It would hence be better to deflate the bubble sooner rather than later – and gently rather than allowing it to burst violently and unpredictably.

We should also note that for a person who intends to live in her own apartment in the same region for the rest of her life, a drop in real estate prices is largely irrelevant: The losses in market value are never realized if you don't sell your apartment. And if you sell it in order to change apartments within the region, a general drop in the real estate market doesn't affect your ability to get a similar apartment in exchange for what you received selling the previous one. Actually, one of the only really valid reasons to own one's own apartment – in the absence of tax benefits, subsidies and inevitably escalating land value – is hedging one's living expenses. Buying a house with intent to live in the same area rest of your life is like "swapping"[2349] your rent-risk for an interest-rate risk. (But in the absence of tax benefits, even for this end it would make more sense to invest in a diversified portfolio of local real estate through an investment fund.) If you have a large mortgage with a small deposit and the drop in the market value of you apartment is sudden and significant, your bank might get concerned for the loss of collateral, but should not be panicking either as long as it can trust you to retain your earning opportunities.[2350] And without subsidies on homeownership, such low-deposit mortgages would be taken and granted much less often.

The only ones actually losing out in a real estate market collapse are investors owning real estate as a part of their investment portfolio with no long-term ambitions of living in the area. Such speculators should seriously consider diversifying their investments into something more productive as soon as possible, before competitive pressures force countries to consider adopting LVT[2351] or before some other factor bursts the local real estate bubble. A brief analysis of how land taxation affects the value of land can be found in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

Another interest-group-political issue – at least in Finland – is "regional politics". It can rightfully be speculated that many political instances want to maintain the high prices of housing in the Helsinki metropolitan area in order to deter immigration from the rest of the country. For some reason, Finns have a need to keep the whole country inhabited at any cost. And if the land tax went partly into state revenues – not only municipality revenues – the lower land taxes in smaller (and especially shrinking) municipalities would serve as a transfer payment to these regions. But otherwise (especially with our current environmental concerns) there are few valid justifications for subsidizing scattered living (a.k.a. sprawl) – and even fewer for deterring people from moving after work.[2352]

4.3.1.6 Case: Helsinki Metropolitan Region

In short:

- ***The Helsinki metropolitan region is a prime example of how the monopoly nature of land is used together with municipal zoning practices to achieve a de facto construction cartel.***

2347 Especially in countries like Finland, where taxation strongly subsidizes homeownership (see: "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model), the number of beneficiaries in this interest group, "the homeowner class", wanting to maintain this "transfer payment" they receive from the "rent-payer class".

2348 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

2349 See: "6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments".

2350 See: "3.1.4 Private Credit Crises, Mass Defaults and Overleverage".

2351 See: "3.5 A Competitive Option and Dominating Strategy".

2352 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

- *The implicit political objective of maintaining "Finnish real estate wealth" constitutes possibly the biggest income transfer (robbery) scheme from the poor to the rich and a major inefficiency in the Finnish economy, while also serving "region political" interest group agendas.*

"Doctors, lawyers and engineers can make more money buying and selling real estate than doing what they were trained to do." ... "The wealthiest investors may have hundreds of properties on their books. If investors hold 10 or 20 percent of these properties vacant, it actually works to their advantage: Less property is available to buy or rent. Scarcity is enforced, rents are raised." ... "Yet 2008 saw a powerful campaign by the Australian property lobby to convince the public over housing shortage. They claimed a [0].9 % vacancy rate in Melbourne's CBD. Surprisingly, a 7 % vacancy rate existed. The appearance of scarcity makes buyers and renters desperate." – "Real Estate 4 Ransom" documentary[2353]

"Construction costs do not explain the development of the prices of apartments in Helsinki." ... "The cause is the desire to pay, which the high productivity makes possible for many." ... "Realized apartment construction is also much less than what the state and municipalities have aimed at with their agreements." ... "If additional supply of apartments is only achieved at the edges of the urban area, the prices and rents in the whole area rise yet higher." ... "For a large part, homeownership subsidies and rent subsidies have been capitalized into [house] prices and rents." ... "There is reason to increase the use of property taxation, so that we can release lots into construction use." – Heikki A. Loikkanen[2354]

Helsinki metropolitan region in Finland is one area where the effects of hoarding land can be seen in practice. Housing prices exceed those of other "big" Finnish cities by 60-100 %. Partly this can be explained by pure size, but simultaneously the fact that real estate prices have risen much faster than construction costs[2355] suggests that building new apartments should be extremely profitable – if lots just were available for construction. But yet new construction does not occur at a rate that would even stabilize housing prices, which keep on rising despite an economically uncertain environment. By contrast, Oulu – the proportionally fastest growing Finnish city in the past decades – had, in 2012, the lowest housing prices out of the 5 largest Finnish "metropolitan areas" (Salmela 2012, p. 34) (if the slightly exaggerated term is allowed for referring to towns of around 50 000-200 000 inhabitants and their suburbs).

Insufficient zoning has been blamed as one culprit,[2356] but unbuilt lots and construction permits for thousands of apartments still remain. The reason for this is that regardless of how much the municipality zones, it is the construction companies and real estate developers that finally determine how much is built. "Controlling output is a significant part of the operations of constructors and real estate developers" and they react very quickly to expectations of dropping housing prices by cancelling or postponing new projects and even slowing down or halting already started ones where economically possible. (Salmela 2012, p. 31)

A cartel is commonly perceived as suppliers coming together to decide on a minimum price at which they all will be willing to sell. But an even more effective cartelization strategy – way to restrict supply – is to split the market between the players: Determining "spheres of influence" like Nazi Germany and the Soviet Union did in Eastern Europe with the Molotov-Ribbentrop Pact. Better yet, Finnish construction companies do not need to engage in an actual, centrally coordinated cartel (or any other unlawful actions) to avoid competitive pressure, as the lot distribution process makes the cartel for them. It is in all of their interest to ensure that housing prices – and therefore the prices and rents they get from real estate investors, homeowners and lessees – don't drop.[2357] The quote (freely translated) from Pekka Helin, the manager

2353 0:58->, 4:39-> & 6:35->, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://realestate4ransom.com/

2354 Hulkko, Kustaa, "Heikki A. Loikkasen asuntoteesit: Kalleuden perussyy on halu maksaa", Suomen Kuvalehti, 28 Mar 2013, cited 5.12.2013, http://suomenkuvalehti.fi/jutut/kotimaa/talous/heikki-a-loikkasen-asuntoteesit-kalleuden-perussyy-on-halu-maksaa/

2355 According to Statistics Finland, for example from 2005 to 2013, the construction price index has risen by around 25 %, while the prices of apartments per square meter in the capital city area have risen by over 50 %.
– cited 10.4.2013, http://www.stat.fi/til/rki/2013/02/rki_2013_02_2013-03-15_kuv_001_fi.html
– cited 10.4.2013, http://www.stat.fi/til/ashi/2012/12/ashi_2012_12_2013-01-25_kuv_001_fi.html

2356 "Asuntoministeri: Asuntopula kuntien laiskan kaavoituksen syytä", Yleisradio, 15th Oct 2012, cited 10.3.2013, http://yle.fi/uutiset/asuntoministeri_asuntopula_kuntien_laiskan_kaavoituksen_syyta/6335330

2357 "Cartel", definition, Investopedia, cited 4.9.2013, http://www.investopedia.com/terms/c/cartel.asp

responsible for the development of YIT's accommodation business, is quite descriptive:

> "Unsold apartments tie down capital. Our aim is that the quantity of finished, unsold projects doesn't rise too high. But we rather postpone upcoming constructions projects. We are not planning to start pushing down prices. We have stuck to our prices quite firmly. If I said that there is room to negotiate, that would mean a welcome call to start bidding."[2358]

If that is not a cartel, what is?[2359] In any sector where competition works in any way, holding on to excess inventory would constantly increase the risks of it being left unsold altogether. This is especially the case when the inventory could be sold at prices notably above production costs, as competitors would swoop in to seize the market share at lower margins.

The market shares of Finnish construction companies are not so much determined by technological or project leadership capabilities, but rather their success in acquiring new lots and in dealing with the municipal authorities in charge of city planning and construction permits (Salmela 2012, p. 33). Just like in the board game Monopoly, if the company doesn't buy lots offered to it, a competitor will, and the company loses potential long-term market share.[2360] Although construction ceases almost completely under uncertain market conditions, the competition over new lots is constant and a new entrant to the construction industry would need to invest heavily into the lot procurement process long before getting to build anything. Understandably – especially in absence of relations to municipal authorities – few are willing to take that risk and tie down the needed amounts of capital not knowing the state of the real estate market in half a decade from now. Additionally, smaller companies are hit hardest by the legal insurance requirements that exist to ensure compensation and correction of structural faults in the case of bankruptcy of the responsible constructor. (Salmela 2012, p. 32).

Many experts insist that there is no real estate bubble in Finland, because "prices have not risen much faster than disposable income" or because "price development has been stable".[2361] [2362] [2363] However, rents and prices in the metropolitan area have risen faster than average – notably faster than real income – and, as said, the rise is quite significant when compared to the rise of construction costs. And yes, there might be no housing bubble like the one in the U.S. before 2008, which was characterized by manic buying of real estate beyond people's means on the expectation of ever-soaring real estate prices. But there is a bubble. We could call the U.S. bubble a "tulip bubble" – referring to the Dutch "tulip mania" in the years 1634-1637[2364] – and the Helsinki bubble a "diamond bubble" – referring to the high prices maintained in the late 20th century by the De Beers diamond monopoly through restriction of supply together with ingenious marketing strategies maintaining a perception of scarcity and instituting the diamond engagement ring as a practically mandatory acquisition.[2365] But even the De Beers diamond bubble was at times close to bursting – and for example Marco Wagner, an economist at Commerzbank, suggests that the Finnish housing market could be, too.[2366] Also Nouriel Roubini lists Finland among the countries where housing markets are showing "signs of frothiness".[2367] (Of course, these experts' insights into the efficiency of the Finnish construction cartel can be doubted.)

Anything that is (considered) a necessary acquisition and the supply of which can be restricted can be made to cost whatever people are able to pay for it.[2368] And this applies even more to accommodation than engagement rings. Saying that there is no real estate bubble, because

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2358 Orginal quote: "Myymättömät asunnot sitovat pääomaa. Pyrimme siihen, että valmiiden myymättömien kohteiden määrä ei kasva liian suureksi. Ennemmin kuitenkin lykkäämme tulevia rakennuskohteita. Emme ole lähdössä hintoja polkemaan. Olemme aika tiukasti pitäneet hinnoista kiinni. Jos sanoisi, että neuvotteluvaraa on, se merkitsisi, että nyt vaan tarjouksia tekemään."
– Ranta, Elina, "Uudisasuntoja tukkuhintaan – saako niitä joku?" Taloussanomat, 24th Oct 2013, cited 16.8.2013, http://www.taloussanomat.fi/asuminen/2013/10/24/uudisasuntoja-tukkuhintaan-saako-niita-joku/201314695/310#back

2359 Of course e.g. cable companies hold even more obvious monopoly positions in areas where there is only one cable network (see footnote 2448).

2360 The game Monopoly is said to be based on a game called "The Landlord's Game" originally designed by Elizabeth Magie, who was influenced by the ideas of Henry George, to be a "practical demonstration of the present system of land-grabbing with all its usual outcomes and consequences." – Dodson, Edward J., 2011, "How Henry George's Principles Were Corrupted Into the Game Called Monopoly", cited 18.6.2013, http://www.henrygeorge.org/dodson_on_monopoly.htm

2361 Keppola, Erika, "Nordea: Suomessa ei ole asuntokuplaa", 11th Jun 2013, Taloussanomat, cited 16.8.2013, http://www.taloussanomat.fi/asuminen/2013/06/11/nordea-suomessa-ei-ole-asuntokuplaa/20138284/310

2362 "Danske: Asuntokupla ei näytä uhkaavan Suomea", 18th Jul 2013, Taloussanomat, cited 16.8.2013, http://www.taloussanomat.fi/kotimaa/2013/07/18/danske-asuntokupla-ei-nayta-uhkaavan-suomea/20139977/12

2363 Kokko, Outi, "OPKK:n Sandberg: Asuntohintakuplaa ei ole", Taloussanomat, 7th Oct 2013, cited 26.11.2013, http://www.taloussanomat.fi/asuminen/2013/10/07/opkkn-sandberg-asuntohintakuplaa-ei-ole/201313899/310#back

2364 Beattie, Andrew, "Market Crashes: The Tulip and Bulb Craze", cited 22.7.2013, http://www.investopedia.com/features/crashes/crashes2.asp

2365 Epstein, Edward Jay, "Have You Ever Tried to Sell a Diamond?" The Atlantic, 1st Feb 1982, cited 22.7.2013, http://www.theatlantic.com/magazine/archive/1982/02/have-you-ever-tried-to-sell-a-diamond/304575/

2366 Alavalkama, Satu, "Ekonomisti: Asuntojen hintaromahdukselle Suomessa vahvat perusteet", Taloussanomat, 4th Oct 2013, cited 26.11.2013, http://www.taloussanomat.fi/asuminen/2013/10/04/ekonomisti-asuntojen-hintaromahdukselle-suomessa-vahvat-perusteet/201313823/310

2367 Roubini, Nouriel, "Back to Housing Bubbles", Project Syndicate, 29th Nov 2013, cited 23.12.2013, http://www.project-syndicate.org/print/nouriel-roubini-warns-that-policymmakers-are-powerless-to-rein-in-frothy-housing-markets-around-the-world

2368 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

prices have not risen faster than people's disposable income is like saying that there is no bubble in diamonds, because young men of engagement age can still (although merely) afford to buy diamond rings. What other goods or services can you mention the prices of which rise – or are expected to rise – with people's income? Instead, growing productivity and rising living standards essentially mean most goods becoming cheaper. The demand for luxury goods (Veblen goods[2369] with symbolic value) tends to rise with living standards, and these tend to be "monopolistic" industries, i.e. ones with highly differentiated products and little price competition. But accommodation in general is not a luxury good where consumers wouldn't be price conscious – quite the contrary.

The lot portfolios of the construction companies tie down a lot of financial capital,[2370] but holding them is not costly, as lots in a growing metropolitan area tend to increase in value in the long run. (Salmela 2012, p. 31). Rather, in addition to securing future market share, the lots are profitable investments in themselves – as long as the housing deficit is successfully maintained. Municipal zoning policies have also been accused of favoring large constructors. This allows the six construction companies (Hartela, Lemminkäinen, NCC Rakennus, Skanska, SRV Yhtiöt and YIT) holding an oligopolistic position in the region to maintain a housing deficit, even if it would be profitable for any smaller constructor to start individual projects. The large lot portfolios in the construction companies' balance sheets further increase the potential losses that might result from dropping real estate prices (which would also affect the market value of undeveloped land), making them even more careful to avoid the production of any "excess."

The municipality of Oulu has succeeded better in keeping housing prices affordable due to its larger supply of land available for zoning, by controlling the sale of zones and by requiring stricter starting schedules for projects (Salmela 2012, p. 34). However, this kind of control can be even more subject to corruption and make the lack of contacts with municipal authorities an even bigger entry barrier. Additionally, construction schedule requirements might still allow – and even encourage – underutilization of lots, i.e. building lower and smaller buildings on lots than the construction permit would allow.[2371]

It is clear that owning land without developing it is just way too cheap. It is profitable even excluding the effects it has on the value of other real estate. Therefore, in a seeming paradox, taxing land more harshly could significantly reduce the costs of living in cities like Helsinki. As the demand curve for housing does not shift with the tax, the tax itself would not go into rents.[2372] It would rather decrease the price of land (the location value in apartments' prices), as less of the rent would go to the owner. But when hoarding up undeveloped land in advance and keeping readily developed buildings unoccupied would become much more costly (as there is no rent with which the tax costs could be covered), the increased supply of accommodation due to more open competition would be likely to lower prices – deflating the current "bubble" – or at least halt the constant escalation of real estate prices.

To be fair, we also have to mention two other big factors pushing up housing prices in Helsinki. One that applies especially to the prices of small apartments are regulations concerning the sizes of constructed apartments.[2373] Such regulatory hampering with the supply and demand of different kinds of apartments only makes sense from populist or interest-group-political perspectives. And probably the worst part is that they limit innovative solutions. For example, having apartments that are easy to split and recombine would provide additional price elasticity in demand – especially upwards with falling prices – which would make the market more flexible and less volatile in the case of a slight oversupply.

A second factor applying to the whole of Finland are the direct and indirect subsidies to homeowners. Interest payments on mortgages are tax deductible and it is even possible to get a government guarantee and an interest rate ceiling for one's mortgage if one saves the deposit for one's apartment on a special "ASP savings account". But even more importantly, a person renting out an apartment has to pay capital income tax on the rent income, while a person living in one's own apartment (theoretically paying rent to himself) does not. The apartment deficit artificially maintained by the construction cartel and keeping real estate prices rising can be considered an additional transfer payment.

These subsidies cause Finns to take mortgages excessively high leverage (with less than 10 % deposits), and increased homeownership reduces regional labor flexibility.[2374]

2369 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2370 See: "Sidenote Box 118C: Marx's 'Capital' Is Closer to Financial Capital".

2371 See: "4.3.1.2 Land Value Taxation – Preventing Underusage, Extortion and Bubbles".

2372 Of course, if land taxation facilitates a reduction in other taxes, the resulting increase in purchasing power could increase the demand (what people are willing and able to pay) for accommodation in desirable locations.

2373 In Spring 2013, Helsinki alleviated the previous 75 m^2-medium-size rule to a new rule requiring half of new apartments to be at least 80 m^2 in size.
– "80 neliön sääntö helpottaa pulaa pienasunnoista paremmin kuin 75 neliön sääntö - miten ihmeessä?" Talouselämä, 8th Feb 2013, cited 10.4.2013, http://www.talouselama.fi/uutiset/80+nelion+saanto+helpottaa+pulaa+pienasunnoista+paremmin+kuin+75+nelion+saanto++miten+ihmeessa/a2168222

2374 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

Furthermore, the subsidies now have brought a majority of Finns into the interest group of homeowners, making it politically very difficult to make any decision that might risk bursting the "diamond bubble" in the Helsinki real estate market. No one says out loud the simple fact that "maintaining the Finnish real estate wealth" practically means "maintaining high rents", which is currently done by maintaining an apartment deficit and with various taxpayer-funded accommodation support schemes for e.g. students, the unemployed, the elderly and others with low income. Rolling back any of these (e.g. removing the separate accommodation support component from the study support system, which would likely cause thousands of students to move back in with their parents or into shared accommodation) risks shattering the "diamond bubble".

Now, we practically have a massive, ever-growing – but also constantly fragilizing – income and wealth transfer system from all rent payers and taxpayers to all real estate owners. Under democracy, it is easiest to impose income transfers where the one who is transferred from does not realize he is losing anything. Accommodation support is a prime example of this. Yes, it is a transfer from taxpayers to the ones receiving the support – but, causally,[2375] it is an even bigger transfer from all other rent payers to all real estate owners: The support raises the rents people overall can afford to pay for accommodation (the demand for accommodation) and these higher rents expected in the future are *capitalized* into real estate values.[2376]

Meanwhile, most of the "winners" – the ones with secure enough incomes to get mortgages with good rates – are practically debt slaves to their banks and carrying a large, highly leveraged, systemic risk, over which they have little control. The mortgage is a very common source of stress. As George Monbiot puts it:

> "If you buy, you are sucked into a vortex of debt and insecurity. If you don't, you are forced into a rental market of Dickensian cruelty."[2377]

Additionally, the house ties the homeowners down geographically and reduces labor market flexibility.

More on factors affecting real estate prices in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

2375 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

2376 Hulkko, Kustaa, "Heikki A. Loikkasen asuntoteesit: Kalleuden perussyy on halu maksaa", Suomen Kuvalehti, 28th Mar 2013, cited 5.12.2013, http://suomenkuvalehti.fi/jutut/kotimaa/talous/heikki-a-loikkasen-asuntoteesit-kalleuden-perussyy-on-halu-maksaa/

2377 Monbiot, George, "The only way to fairness in housing is to tax property", The Guardian, 2nd Jun 2014, cited 4.6.2014, http://www.theguardian.com/commentisfree/2014/jun/02/housing-tax-property-help-to-buy-government-schemes

One additional, long-lasting side effect of the perverse market situation is that real estate developers don't have to compete with quality, as apartment prices are in any case the highest many people can afford to pay and the developers can trust that everything they construct gets leased or sold – at least eventually. This is likely to result in Helsinki residents having to endure uglier and less creative architecture as well as technologically less advanced construction solutions for decades, even if the market were eventually fixed.

4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable

In short:

- *All real estate development has externality effects (negative and positive) on the value of surrounding land.*
- *Some form of predictable city planning and zoning is needed to make these externalities predictable and hence facilitate efficient urban development without unduly risks and windfall gains.*

> "The most important land improvements cannot however be undertaken without infringing the principle of private ownership of the land. How, for instance, is a private individual to construct a road to his fields across the property of his neighbour who may be his enemy ? How do we construct a railway line or a canal through the property of 1000 private individuals? Here the principle of division of property and of private ownership of land must always give place to legal expropriation. No private individual can construct dykes as a protection against floods along coasts and rivers. The same is true of the drainage of swampy land, where the plan must ignore boundary fines and be adapted solely to the lie of the land."
> – Silvio Gesell, The Natural Economic Order (1916, Part 2, Ch. 3)

Milton Friedman was one economist to believe that no city planning by a central authority is necessary and that

land use should be left completely to the free market.[2378] Many blame this public monopoly of zoning – including dedicating areas for specific types of construction according to purpose (commercial, residential, recreational, industrial) and setting maximal allowed heights for buildings – for housing bubbles and the high costs of accommodation in general. It is a valid notion that construction can be limited purely by a deficit of zones or construction permits and that their limited supply makes it easier for real estate developers and construction firms to restrict the supply of apartments, business premises and other facilities. As explained above, zoning alone is seldom the only culprit. But is there really any need for zoning, or is this just another useless form government intervention and bureaucracy restricting economic activity and preventing efficient and fair supply and demand[2379] from doing their thing?

Central city planning is a relatively new phenomenon (roughly 150 years) as it only emerged to combat challenges in industrialized cities. (Kostof 1989) As explained in "4.3.1.1 Land – One Mother of a Monopoly", land ownership is not so much ownership of the soil, but of the space above it, and the value of land – especially within cities where it is most expensive – is seldom based on soil composition, but on location! Location, location, location. And the value of the location is not determined by its global coordinates (degrees of latitude and longitude), but

- the *reachability* of commerce centers and one's work place, which is dependent on available transportation infrastructure and services, and
- local *attractive* and *repulsive* features, which include surrounding buildings – their aesthetic properties and other effect on views and outdoor space – as well as sources of noise, smell, pollution etc.[2380]

Therefore, all real estate developments and infrastructure investments have significant positive and negative externality effects[2381] on the value of existing and potential future real estate. (Laakso & Loikkanen 2004) And the same development can have a very different externality effect on different kinds of facilities: A park can be expected to have a much higher positive impact next to a residential area than in an industrial zone. The same applies to the value of natural formations: A passing river provides quite a different added value for an apartment in a remote residential suburb than in a remote industrial district with busy commercial harbor or a water purification facility next door.

And as said, people pay for a view. Without zoning, how could you know whether you will have another house or that water purification facility as your neighbor and when someone is going to build higher buildings right around your house? Without predictable plans of public infrastructure investments, how will you know what connections there will be to your potential work place and commerce centers in the future and whether they will be sufficient to avoid congestion when surrounding areas develop? And without any presumption of these factors, how would you then know whether an investment into constructing a house is worth it or not? In the case of industrial investment decisions, expectations of the development of local infrastructure have a significant effect. And these infra investments in turn are affected by what else will be built in the region.

Because of these strong externality effects, other people can "rob" you of part of the value of the real estate you have purchased or developed by using their adjacent land for unexpected things. Some libertarians[2382] attempt to solve this by setting limits that require gaps to be left between buildings and lot edges depending on the building's height. However, this would result in very inefficient land use in cities and would not solve the problem of predicting whether you are going to have a park, a market place or a paper factory next door.[2383]

The main purpose of zoning is to increase the predictability of the future value of a location and of the suitability of different improvements on it, as well as to facilitate efficient city structures that allow optimizing infrastructure investments – in terms of both routes and timing of the investments. Just like infrastructure projects by municipalities can increase the value of land significantly, central city plans can also be seen as "public goods" that increase land value by reducing risks of negative externalities (imposed e.g. by unexpected NIMBYs[2384]) and increasing positive externalities (Kaza & Knaap 2010), which e.g. a park, sporting facilities or a small shopping center might have for an adjacent residential area.

Fans of the Austrian school of economics are some to point out that market information is dispersed and cannot be collected sufficiently to allow productive central decisions. (Pasour 1983; Pennington 2004; Hayek

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2378 2:55-> & 21:48->, 2010, "Take It to the Limits: Milton Friedman on Libertarianism", Interview with Milton Friedman on Uncommon Knowledge, viewed 10.4.2013, http://www.youtube.com/watch?v=ISumJx-Q5oy4

2379 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2380 See: "Sidenote Box 4311A: Components of Location Value".

2381 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

2382 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

2383 Machan, Nolan, "Cancelled Power Plant boosts Oakville Real Estate", Oakville Ontario News, 11th Oct 2010, cited 17.1.2014, http://www.oakville.com/articles/cancelled-power-plant-boosts-oakville-real-estate/

2384 Short for "Not In My BackYard".

1945) This is a valid argument against too precise public zoning or the government taking a monopoly on real estate development. However, zoning on a higher level is a case where "the government need not know any better" (Chang 2010, p. 176) the needs of the market than the private sector. Even suboptimal decisions, as long as they are reliable and consistent, can produce value simply by making productive activity and decision making easier for the private sector – although this logic might not apply to interventionism as broadly in other areas (ones with smaller externality effects and less path dependence[2385]) as e.g. Ha-Joon Chang likes to think (2010, p. 125-136 & 221-230).

Although the objective of central planning is to achieve a more efficient urban structure that takes into account the long-term benefits of a broader number of stakeholders than a free, decentralized market could achieve (Webster 1998), in practice the effects might be quite the opposite, as significant institutions have good chances of intervening by means of lobbying in the slow planning process and short-termist horse-trading between political interest groups might result in even purposefully inefficient outcomes.[2386] These are yet some more problems with *democracy*.[2387]

Another common criticism of central city planning is that its *objectives* are often vague in nature and questionable in their justifications. The most common objectives, including "an efficient urban structure", "balanced development" or avoiding "structural dispersion", are often not very clearly defined. "Balanced development" might include attempts to slow down growth of cities or areas purposefully, due to political interest group agendas of existing residents of other municipalities or townships[2388] fearing for the value of their real estate and service availability in their region. It can also be argued that, in some cases, "structural dispersion" may be what the inhabitants desire. (Although fuel consumption has been shown to decrease with population density (Newman & Kenworthy 1989), it could be argued that emission reductions are not a valid enough reason to hamper with urban development, but that these problems should rather be solved by taxing fossil fuels out of use.[2389])

City planning has also had other objectives, the necessity of which can be rightfully questioned. One such objective is avoiding segregation: grouping of people into areas by e.g. social class or cultural or ethnic background. Examples include the emergence of a "China Town" or "Little India" and the "slumification" of some areas while other suburbs attain elite status. Some hypothesize that segregation according to economic positions increase income inequality.[2390]

However, segregation has been theorized to result from (ethnical, religious, economic or other) minority groups not wanting to be a minority in their area.[2391] (Schelling 1971) Mixing economic "classes" may result in increased discontentment with people's own economic positions. (Luttmer 2005) Segregation can also be considered a natural part of urban development, and it can even be a significant factor in economic efficiency. The well-intentioned objective of "mixing people" more than they would naturally tend to mix may therefore have effects opposite to those intended. It could even increase harmful tension between cultural and social groups.

Even if some objectives of city planning are questionable, there is a strong case for the claim that city plans create value by reducing the harms and risks of negative externalities and by increasing positive ones. If plans are value-creating services, the efficiency of which can be measured with market price signals (Cheshire & Sheppard 2005), doesn't this suggest that significant benefits can be achieved by opening such services up for competition? On a smaller scale, maybe. The trouble is that the big picture is what matters much more, especially in terms of infrastructure investments (which themselves would not work very efficiently as private industries[2392]). And the bigger the picture gets, the more monopolistic power a private, profit-seeking planner (or landowner) would have, causing significant moral hazards – not only in terms of how much they can charge for the plan.

On the more local level, we could have more detailed plans of individual townships left open for private competition. But for the developer to have incentive to maximize the value of the whole area, it would practically require the planner to own all the land in the area, which brings us back to the sorts of oligopolistic positions that construction companies, real estate developers and investors currently have, and that play a part in intentional housing deficits in e.g. the Helsinki metropolitan area[2393] (the harmful effects of which can of course be slightly reduced with land taxation).

2385 See: "Sidenote Box 341A: The Government's Role in Determining Standards – Can Harmful Path Dependence Be ".

2386 Associations of homeowners in one area might object to construction in nearby regions, just to maintain the market value of their homes, which results in more dispersed construction and e.g. a faster rail connection to the airport might be objected by taxi driver unions and companies because it could result in reduced business for them.

2387 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

2388 See: "4.3.1.6 Case: Helsinki Metropolitan Region".

2389 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

2390 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

2391 To see how even a small preference for the proximity of similar people can result in drastic segregation, try out this simulation model: "Segregation", NetLogo Models Library: Sample Models/Social Science, tested 22.7.2103. http://ccl.northwestern.edu/netlogo/models/Segregation

2392 See: "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

2393 See: "4.3.1.6 Case: Helsinki Metropolitan Region".

In light of these issues, the author would be inclined to support the idea that zoning as a whole be left to the local municipality. But the municipality should, in zoning, refrain from local-level detail which is unnecessary in terms of keeping the externality effects of private development sufficiently predictable. Practically, we could see different municipalities as the competitors in this "city planning industry". However, the threshold to move to another city – just because the city plan (for example rate of structural dispersion or quantity of recreational areas) does not suit one's needs perfectly – is quite high. Because of this and the fact that the benefits of scale for the "productivities" of cities is huge, such competition between "profit-seeking cities" would not work very efficiently either.[2394]

2394 See: "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".

Sidenote Box 4317A: Additional Reading on Land Monopoly and LVT

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- "Why is the rent so high?" demonstrative video, EarthSharing.org, viewed 22.4.2014, https://www.youtube.com/watch?v=7HZANYxnkWk
- "An Englishman's Home", The Economist, 11th Jan 2014, cited 16.1.2014, http://www.economist.com/news/leaders/21593454-shortage-housing-gathering-national-crisis-rev-up-bulldozers-englishmans-home
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- The Interantional Union for Land Value Taxation, http://www.theiu.org/about-us
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- Earth Sharing: Opportunity and Equity, http://www.earthsharing.org.au/
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- McNab, Jane & Tuck, Jacqueline, 2013, "How the reputation of Georgists turned minds against the idea of a land rent tax", University of Ballarat, retrieved, 12.2.2014, http://www.business.uwa.edu.au/__data/assets/pdf_file/0019/2325322/Jane-McNab-Jacqueline-Tuck-Final-b-HETSA-Paper-2013.pdf
- Foldvary, Fred E., 2006, "The Ultimate Tax Reform: Public Revenue from Land Rent", Civil Society Institute, retrieved 23.2.2014, http://www.foldvary.net/works/policystudy.pdf

4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies

In short:

- *In many ways, patents behave more like "land" than like producible capital, as they are non-fungible and competing capital cannot be produced.*
- *Taxing the holding of patents according to owner-determined market value (as well as better taking into consideration a patent seeker's influence on the development of the patentable technology or application) could make the IPR market work more efficiently and fairly, by ensuring that patents are sold or licensed to the most productive uses available instead of being hoarded for protectionist or hostile ends.*
- *Domain names are like digital real estate. Holding domain names (especially ones not directly matching registered trade marks or names of societies) could be said to be too cheap currently.*

"Patent trolls hold genuine innovators hostage and patents have become weapons in an international technology arms race." – Thorsten Heins[2395]

"We can share ideas with other people and when they discover them they share with us. It's not like scarce objects where sharing means we each get less: when we share ideas, we all get more." – Paul Romer[2396]

"[B]y recognizing a right in an ideal object, one *creates* scarcity where none existed before." – N. Stephan Kinsella, Against Intellectual Property (2008, p. 33, *italics* in original)

There is heated debate over the *nature* of "intellectual property", especially in libertarian circles: Is it "property", is it "wealth", does it fall under "the natural rights" that some like to derive from self-ownership,[2397] and so on.[2398] Such deontological debates attempting to derive policy conclusions from definitions of (existing) concepts[2399] are unlikely to lead to a universally accepted conclusion – and even more unlikely to result in good policy,[2400] especially as the world (including other social constructs and available technologies) might have changed significantly since those concepts were originally conceived. And Ludwig von Mises would agree:

> "It is useless to stand upon an alleged 'natural' right of individuals to own property if other people assert that the foremost 'natural' right is that of income equality. Such disputes can never be settled." (Mises 1963, p. 284-285)

As with money, "there is no ought from is"[2401] in property rights.

With the Root Bug hypothesis, we take a more pragmatic and consequentialist approach. From a libertarian perspective, the question we ask is what kinds of intellectual property – or lack thereof – allow restricting others' freedom to do as they please.[2402] But even more importantly, we ask whether intellectual property contributes (as one game mechanic) to making the economy a better platform for "good games" – motivating and fair collaborative action where everyone can have a sense of progress and control.[2403]

The main pragmatic argument for patents is that new inventions – technologies and innovative applications

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2395 McKenna, Barrie, "RIM's patent portfolio scores high in new global ranking", The Globe and Mail, 5th Feb 2013, cited 20.10.2013, http://www.theglobeandmail.com/globe-investor/rims-patent-portfolio-scores-high-in-new-global-ranking/article8257923/

2396 17:27->, Romer, Paul, 2009, "Why the world needs charter cities", TED Talk, viewed 20.10.2013, http://www.ted.com/talks/paul_romer.html

2397 See: "Sidenote Box 11.7A: Ownership as an Idea, Feeling, Relationship or Extension of the Self?".

2398 McElroy, Wendy, "Copyright and Patent in Benjamin Tucker's Periodical", Ludwig von Mises Institute, Mises Daily, 28th Jul 2010, cited 9.12.2013, http://mises.org/daily/4575

2399 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

2400 ...unless you define "good policy" by such natural rights. See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

2401 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".

2402 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".

2403 See: "2.1.6 Conclusions – How about a Game Design Approach?" and "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

thereof – can have significant positive externalities[2404] for others who can learn to utilize them as well, without them having to incur the development costs. As a result, without patents, the economic incentive to invent is not strong enough to make it profitable for individual people or companies to invest in research and development, even though the efforts might be net value producing for the whole economy. Patents allow the inventor to capture a bigger share of the value that the invention produces, and this ensures that he gets duly compensated for his efforts. This creates incentive for researchers and developers to strive for new inventions.

However, patents – monopolies on technologies – can have significant negative externalities as well: They restrict others' freedom. Patents can be used to limit competition by preventing new inventions from entering the market and restricting technological progress by blocking further development of inventions and methods. Take e.g. the case of the oil industry buying up patents related to renewable energy technologies in order to be able to control their commercialization and rollout, and thereby extend the life cycles of their oil-based technologies and maximize the value of their sunk investments in oil-related infrastructure and discovered reserves.[2405] [2406] So called "nonpracticing entities" (NPEs, a.k.a. "patent trolls") can make a very profitable business out of applying for patents on very broadly defined methods or processes and then extracting licensing fees or other forms of settlement from companies who don't want to take on the costs and risks of going to court.[2407]

The possibility of NPEs or competitors suing for infringements on their patents force companies to engage in *defensive patenting*: to apply for and buy patents just to prevent such patents from falling into the hands of trolls or competitors (Kinsella 2008, p. 22) and to have some leverage against competitors if they are sued – maintaining a kind of "balance of terror".

> "Why are companies spending so much money on patents? First, as protection. 'Patents are like bullets,' law professor Chien says. 'They're cheap to acquire but can cause a lot of damage.' But if you have your own bullets, would-be assassins are less likely to target you. That's the thinking behind RPX (Rational Patent Exchange), whose clients include Google, Microsoft, and IBM. RPX amasses patents, it says, to keep them out of the hands of lawsuit-happy competitors, and it vows not to sue anyone over them." ... "They were dissuaded from suing one another because they knew their target likely had patents that covered similar territory and they could be countersued quickly – the legal equivalent of mutually assured destruction. 'Typically there's a cross-license that keeps companies from having to assert literally 10,000 or 20,000 patents against each other,' Google general counsel Kent Walker says."[2408]

Such defensive patenting itself easily looks like patent trolling – e.g. the recent case of Amazon patenting the process for photographing things against a white background.[2409]

"Patent wars" (including "cold wars") can cause companies to pick their focus markets and business areas based on the level of IPR protection therein, rather than going after market gaps (Paik & Zhu 2013) – unfilled human needs – which causes inefficient resource allocation and reduces competition where IPR protection is high. These patent wars involve significant costs, while it can be argued that they produce hardly any net real value for the whole economy.[2410] In 2011, Apple and Google spent more on patent lawsuits and patent purchases than on research and development of new products.[2411]

Andrew Yglesias points out that intellectual property in general is more comparable to "land" than "capital" in classical economic models.[2412] They are monopolies by definition[2413] and non-fungible. Equal substitutes cannot be produced by human labor to compete with a patent,

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2404 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2405 "Who killed the electric car?" documentary, Sony Pictures Classics, viewed 25.6.2013, http://www.youtube.com/watch?v=IENnSK8Q6nE

2406 Lane, Eric, "BP-DuPont Biofuels JV Takes Gevo to Court", blog post 15th Feb 2011, viewed 26.6.2013, http://blog.cleantechies.com/2011/02/15/bp-dupont-biofuels-jv-takes-gevo-to-court/

2407 E.g. Eon-Net sued dozens of companies simply because their services included on-line forms for collecting information through the internet. Similar feats include patenting podcasting as a service process. - Levy, Steven, "The Patent Problem", Wired, 13th Oct 2012, cited 9.5.2014, http://www.wired.com/2012/11/ff-steven-levy-the-patent-problem/all/ - Fleishman, Glenn, "A podcast patent piper wants to be paid", The Economist, 25th Mar 2014, cited 9.5.2014, http://www.economist.com/blogs/babbage/2014/03/intellectual-property

2408 Levy, Steven, "The Patent Problem", Wired, 13th Oct 2012, cited 7.5.2014, http://www.wired.com/2012/11/ff-steven-levy-the-patent-problem/all/

2409 Stockton, Nick, "Taking a photo against a white background? Amazon owns the patent on that", Quartz, 8th May 2014, cited 9.5.2014, http://qz.com/207512/

2410 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive."

2411 Duhigg, Charles & Lohr, Steve, "The Patent, Used as a Sword", New York Times, 7th Oct 2012, cited 20.10.2013, http://www.nytimes.com/2012/10/08/technology/patent-wars-among-tech-giants-can-stifle-competition.html

2412 Yglesias, Matthew, "Newfangled Capital", Slate.com, MoneyBox blog, 14th Jun 2013, cited 17.6.2013, http://www.slate.com/blogs/moneybox/2013/06/14/new_fangled_capital.html

2413 "A government license that gives the holder exclusive rights to a process, design or new invention for a designated period of time." – "Patent", definition, Investopedia, cited 6.12.2013, http://www.investopedia.com/terms/p/patent.asp

which does not qualify them as "capital" in the Georgist sense.[2414]

And this is very relevant for the consequentialist approach to the questions of what kinds of intellectual property should be patentable and otherwise registrable and what kinds of rights should be included in these forms of "property"[2415] – and, especially, what the costs of holding such intellectual property should be.

One improvement could be to make the duration of patents depend on evidence on how soon and easily the technology would likely have been developed without the patentee's contribution – i.e. determining patent duration according to "originality" – which might prevent the most severe cases *"patent trolling*. Ironically, the patent to the board game "Monopoly" is itself a good example of such rent-seeking by patenting something very similar to something others have already developed.[2416] [2417]

Of course, such estimates of how something might have evolved in the absence of the influence of one actor or organization are very speculative,[2418] and, therefore, such considerations leave open room for corruption. And should it be that technologies can be patented as a whole or should patents be granted separately for specific applications of that technology – the actual "innovations" (e.g. a certain touch screen technology in general vs. their application in the types of smart phones currently trendy)?

Regardless of how patents are granted and how their durations are determined, taxing the holding of patents according to owner-determined market value or according to outstanding offers for the patent – much like land – seems like a very promising improvement for the intellectual property rights (IPR) market.

Taxing holding patents according to market value would not prevent the developer of the technology from receiving compensation for his efforts: He could price the patent according the most productive use he sees available for it and a buyer who sees a better use would buy it off him and pay the higher taxes – just like in the case of land under LVT. Instead, the tax would make it much less unprofitable to hold patents for purely protectionist purposes. If you didn't intend to produce anything valuable with an invention or technology, you would not want to own the patent for it. You would patent it only if you intended to use it productively or sell it for productive use right away. Patents would practically be on a constant auction to the most productive user!

Anyone who incurred bigger externality costs from another's patent than the patent holder could produce additional value with the help of that patent, would buy that patent off the owner. This would prevent extortion through such monopolies, which was the objective in the "Why" part of the Root Bug hypothesis.[2419] Currently, "renewal fees" (EC 2012, p. 4) are the only cost to the holder for maintaining a patent and by no means reflect the negative externalities that the specific patent in question imposes on others by preventing productive use and development of the technology elsewhere.

As for determining the taxable market value of patents, the initial suggestion is to use the owner-determined valuation model suggested by Henry George for land: The holder of the patent determines the price at which he is willing to sell the patent and is taxed according to it – and obliged to sell to any seller. One might now bring up the problem of sunk costs: Already made investments into production and further development are lost if one is forced to sell the patent. It is important to note that this is not exactly the same case as with the improvements made on land (that land cannot really be sold without the improvements[2420]): Although the patent seller can be deprived of the right to use his installed real capacity, ownership of these "improvement" is not transferred to the buyer of the patent. Nevertheless, a hostile competitor (or a patent troller, seeking to blackmail the producer into buying the patent back) would be likely to jump on such a possibility. Possible solutions for overcoming this issue include requiring a buyer to license the patent back to the previous owner for some predetermined price according to the value of the patent or (b) using a model (similar to the one suggested for real estate[2421]) where outstanding purchase offers determine the market value and the buyer is obliged buy if the seller decides to agree to such an offer.

Does the government have a justification for taxing patents? It is hard to find anything with a more obvious right to charge for. Intellectual property rights are even more a government-provided service than our current monetary units – euros and dollars.[2422] Patents would not be possible without governmental agencies granting and enforcing patents by e.g. punishing for breaches. There are hardly any ways to implement intellectual property rights

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2414 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
2415 See: "1.1.7 Ownership as a Bundle of Rights".
2416 "Anti-Monopoly", cited 21.6.2013, http://antimonopoly.com/the-book/book-excerpt/
2417 Dodson, Edward J. 2011, "How Henry George's Principles Were Corrupted Into the Game Called Monopoly", cited 18.6.2013, http://www.henrygeorge.org/dodson_on_monopoly.htm
2418 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".
2419 See: "2.3.5 Structure of the Root Bug Hypothesis".
2420 See: "4.3.1.4 The Pure Lease Alternative's Problems – Land Value Is Location Value of Real Estate".
2421 See: "4.3.1.3 Practical Challenges: Fair Valuation and Assessment of the Replacement Costs of Improvements and Other Owner-Created Value".
2422 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

in anarcho-capitalism. (see e.g. Kinsella 2008) There is no reason why the government couldn't take a large share of the profits made by holding patents – especially when such a tax would increase the efficiency of their use. A 10 % tax of market value would – like in the case of land – mean that the government takes roughly a half to two-thirds of the potential of the patent to generate additional profits[2423] – the potential of the patent (technology monopoly), not the technology.

Land and patents are similar in this sense:

- Both can be acquired and held for protectionist and hostile strategies that limit fair competition and others' possibilities.
- The risk of others doing so results in agents having to acquire and hold them for "defensive" purposes: preventing others from preventing them using the land or technology.
- The revenue generation potential (and hence market value) of both depends heavily on the development of the whole economy.

Of course the value of many kinds of capital requires a market big enough to allow fully leveraging it (benefits of scale), but for example the profit potential of a factory, the full produce of which can currently be sold, does not grow just because the market grows. In addition to market growth, significant investments into new capacity would be required to realize the potential profits. Also, how many competing factories are built affects the profitability of the factory.

Instead, the value of land in a city rises as its population grows – with both increased labor productivity (allowing people to afford higher rents) and increased scarcity of land – without any additional investments required from the landowner.[2424]

Similarly, the value of a patent grows with the size of the market where the patent can be leveraged. And, without any additional marketing efforts from the patent holder, the market can grow due to population growth or a rise in living standards. And it grows almost at a one-to-one ratio with these. Compare developing e.g. diabetes medication or touch screen technology for a market of 10,000 users or 1,000,000 with a similar distribution of purchasing power. Also the number of potential producers that could otherwise leverage the technology has an effect. A patent (a monopoly on technology) has no value if there is no one else who would want to use the technology.

> "Ideas are not naturally scarce. However, by recognizing a right in an ideal object, one *creates* scarcity where none existed before." (Kinsella 2008, p. 33)

Although land – i.e. location[2425] – is different in that it is naturally already scarce, untaxed private land ownership – the right to exclude others from accessing it completely – allows creating further scarcity of a vital nature by hoarding it up and making less of it available on the market for as long as one sees fit, without incurring any costs for the resulting externality costs. Just like a commodity currency of limited quantity (inelastic supply) dictated by a state or landowners allows making money a limited, vital resources, patents allow making technologies limited, semi-vital resources.

Because much of the value of both land and patents is generated by the whole society and increase simply with the size of the society (and its structure), it is quite justifiable that part of the income they generate goes to the maintenance of such a society – and especially maintaining the structures that make such ownership possible in the first place: legislation and judicial systems that maintain patents and, in the case of land, public infrastructure and central city planning that can increase the efficiency of (add value to) metropolitan development by increasing predictability and positive externalities.[2426] With constantly growing global markets (due to growing populations and living standards), such a loss of margin would not significantly hamper the profitability of R&D activities.

For technology patents, which allow restricting the application of a solution in all contexts, the above described value-taxing model seems feasible, but not so for the copyright of artistic work. There is hardly any incentive to patent a song and never play it just to prevent competing bands from playing that specific song. (The situation would be quite different if one could patent a guitar riff, chord pattern or drum comp and prevent using them in any context or combination.) And the value of works of art, like songs or movies, tends to rise as knowledge of them spreads wider. Many bands have realized it to be a better strategy to make their music available for free and rather

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2423 This, again, depends on the discounting interest rate, which depends on the market interest rate and perceived business risk. "A half to two-thirds" assumes a discount rate of 5-10%. The effect on the market value of patents would be similar to the effect of a land value tax on the market value of land. More on this in "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".

2424 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

2425 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

2426 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

make their revenues from live concerts,[2427] donations[2428] and fan merchandize. This model, however, does not work so well for graphical design or books although some experts are also cashing in on guest lectures instead of demanding high payments for their research publications, which work more like promotional material. As e.g. Paul Krugman (1999) said before the turn of the century, we're transitioning into a fame and reputation economy.

But the line between patents and copyrights is sometimes quite fuzzy, like in the case of the board game Monopoly: Is a board game more a like new valve design (patentable "technology") or like a book, song or painting (copyrightable "work of art")? A board layout seems intuitively to be more subject to copyright and a completely new game mechanic could be seen more as a "technology"? But should game mechanics or combinations thereof be subject to patents?

Another, currently very hot subject of debate is the field of genetics. Biotechnology processes are clearly technologies, but should discovered and extracted genes – or proteins like hormones – be patentable? The gene or molecule itself might not have been invented by the extractor, but a new use for it could be. And the knowledge of the exact genome sequence could be considered a discovery that can be used by others – unprotected it could have massive positive externality effects and it could be argued that the sequencer should be entitled to capture some income from those positive externalities, as with other inventions.

The questions related to IPRs are not easy ones and they are not the main focus of this book, aside from the potential of market value taxation in improving the functioning of the patent and domain name markets.[2429] If monopoly is what allows extortion of others, as Henry George thought, then it would be a safer option to risk "too weak" protection of intellectual property rights – even at the risk of discouraging some kinds of R&D that might be made profitable by patenting – than too strong protection.

The European commission has also targeted "patent valorisation through technology development and commercialisation" – putting patents into productive use – as a major policy objective. (Ménière 2012, p. 4) The main focuses here are on reducing transaction costs, including difficulties in valuation and licencing and a lack of transparency in what patents are available and needed for which technologies. Suggested policies include providing public services to SMEs to support "valorization" and creating better platforms for trading patents. One example is supporting the emergence of "patent funds" that purchase patents and attempt to resell them at a profit. (Ménière 2012, p. 5-8)

The objective of reducing transaction costs is a good one, but creating such patent funds (private or public) without increasing the costs of holding patents can also result in increasingly systematic restriction of technological progress and fair competition as well as other forms of harmful rent-seeking – similar to those in "domain investing."[2430] On the other hand, if holding patents is made sufficiently costly, there is no reason why the private sector would not create the needed IPR exchange platforms without any public subsidies, as long as legal and bureaucratic limitations to transferring patent ownership are minimized and needed interfaces to IPR registers are made available.

Unfortunately, democracy tends to end up choosing the subsidy alternative to the disincentive alternative – increasing public costs rather than revenues – even when the latter (e.g. a Pigovian Tax) would be clearly optimal. It is politically easiest to get passed transfer payments where the one who is losing does not see he is losing.[2431]

2427 Brisbourne, Nic, "Top artists' concert revenues typically 2-3x their album sales", The Equity Kicker blog, 24th Jan 2010, cited 28.6.2013, http://www.theequitykicker.com/2010/01/22/top-artists-concert-revenues-typically-2-3x-their-album-sales/

2428 Palmer, Amanda, 2013, "Amanda Palmer: The art of asking", TED Talk, viewed 24.6.2013, http://www.ted.com/talks/amanda_palmer_the_art_of_asking.html

2429 See: "Sidenote Box 432A: Domain Names as Digital Real Estate".

2430 See: "Sidenote Box 432A: Domain Names as Digital Real Estate".

2431 See: "6.3.2 Appendix 3.2: The Challenges with Democracy" and "3.1.8 Public Sector Inefficiency".

Sidenote Box 432A: Domain Names as Digital Real Estate

The "4 Ps" of marketing strategy in traditional retail and fast food industries tend be Location, Location, Location and Location (or "Place" or "Distribution" in the original "4 Ps"). In the world of the internet, the main retail location of many businesses is no longer a boutique at a busy street corner but a website that can be found behind a memorable domain name (like "amazon.com", "facebook.com" or "rootbug.org"). Domain names are the "real estate" of the virtual world.

Domain names are of course unique and when a company or other organization is pondering over a new name for itself or its new product line, a major question is whether the intuitive domain names are still available or easily procurable. As domain names are "owned",[2432] they can also be resold and this has lead to "cybersquatting" a.k.a. "domain squatting": companies and individuals buying up domain names containing potential combinations of common words in hope of making a profit when someone else starts craving them for actually productive use, such as for promoting the brand of their company or product line.[2433] Practitioners like to use the more euphemistic term "domain investing" and compare it – quite descriptively – to buying real estate.[2434]

Comparing sensible domain names to land, both are non-fungible, unique resources (they have a "local monopoly") and good ones (lots in central locations and sensible domain names) start becoming scarce as the human population grows and comes up with new uses for them. And if holding them is relatively cost-free, it is enough for scarcity that people can be *expected* to come up with potential uses for them, because such expectations make hostile hoarding profitable and defensive hoarding[2435] becomes almost compulsory. As a difference, the value of a domain name is not as "location-dependent". That is, its value does not as much depend on things that are "built" around it although common typos of popular domain names (e.g. "gogole.com" or "amazno.com"), get a lot of accidental hits, which serves as free advertisement or might allow phishing for confidential information such as passwords. The utilization of such hits by acquiring similar domain names is called "typosquatting" or "URL hijacking"[2436].

It is clear that the limitedness of good domain names and the resulting hoarding poses a similar risk of inefficient utilization of the resource as occurs with land. However, it would be counterproductive to tax (all) domain names according to their market value, as the value of a valuable domain name – like a trademark – is largely built by its user by developing the brand with a good service or other content, whereas the value of land (excluding buildings and other improvements) is more determined by what is built around it by others. It isn't justified to punish a person or company for creating a liked and trusted brand. However, it might be justified to raise the annual fees collected for possessing registered domain names. As a domain name can now be acquired and held for around $10 per year, it is quite certain that more names will be hoarded for opportunistic squatting purposes than held for productive use. Compare this to the costs of registering a trademark.

Modern internet analytics could also allow scanning the prevalence of different words in our languages and set higher annual fees ("taxes") for domain names containing common words – reducing the unearned advantage from acquiring an already used expression compared to branding a new word from scratch or a less common spelling of a word (e.g. "amazon" vs. "flickr"). Of course, uses of the word in referring to an existing brand would not count. Therefore, e.g. "twitter" might have originally escaped with fairly low "domain taxes" compared to e.g. "apple", as "apples" as fruits are a more common discussion subject than

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2432 See: "1.1.7 Ownership as a Bundle of Rights".
2433 Kennedy, Niall, "Every good domain is taken. Here's why", blog post, 22nd May 2007, cited, 14.6.2013, http://www.niallkennedy.com/blog/2007/05/domain-squatting.html
2434 Silver, Elliot, "Differences Between Domain Investing and Cybersquatting", DomainInvesting.com, 10th Mar 2010, cited 17.12.2013, http://www.domaininvesting.com/differences-between-domain-investing-and-cybersquatting/
2435 See: "4.3.2 A Market Value Tax on Patents - Minimizing the Negative Externalities of Technology Monopolies".
2436 Giles, Jim, "Typos may earn Google $500m a year", New Scientist – Tech, 17th Feb 2010, cited 14.6.2013, http://www.newscientist.com/article/dn18542-typos-may-earn-google-500m-a-year.html#.UbsMXPY-KYk

Continued on page 510 ►

"twittering", the activity of making noises undertaken by birds. In the cases of words that are not already recognized brands, search frequency in search engines can also be used as a determinant on the cost of holding the domain (cybersquatters are probably already using search engine statistics to scan for potential acquisition targets).

Such a tax would of course be a controversial subject, as brand names have been selected earlier with no knowledge of such costs, but of course the domain taxes won't have to be very high to discourage squatting - thousands of dollars or euros at most with maybe only cases like sex.com and gay.com having to pay 5-figure sums. Of course non-profit organizations might take relatively bigger hits from such a tax, but in the case of a very small organization that happens to have a common word as a domain name, it is not difficult to get one's dedicated users to shift to another domain during a year's time.

One alternative could be charging a fixed fee (though higher than $10 per year) for domains named directly after a registered association, corporation or trademark and taxing other domains as a percentage of market price, which could be set by the owner (as with patents and as Henry George suggested for land). So when one really starts building a brand, it's worth registering a trademark, company or association.

This sidenote box is not meant to be a manifesto for higher domain name taxation based on word occurrence frequency or market value. It is merely a suggestion to investigate whether higher annual domain name fees might get the market to work more efficiently and justly, e.g. by making more sensible domain names available to starting entrepreneurs and other organizations – instead of systematically operating, opportunistically rent-seeking,[2437] non-productive squatters.

2437 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

4.3.3 Other Natural Resources, Renewable or Non-Vital

In short:

- *Fish and game populations are typical subjects of the Tragedy of the Commons, as such populations cannot be separated from each other and owned by different parties.*
- *Governments could "own" all of these and auction sustainable use quotas, including fishing and hunting licenses.*
- *Although minerals cannot be produced infinitely with labor, they are not irreplaceably vital, nor strictly limited in the sense that land (as in location) is. Their supply has price elasticity, as rising prices can increase extraction, refining and recycling in the long run as well as encourage using them more efficiently and finding substitutes.*
- *The most important thing is to ensure that the full externality costs of mining, forms of disposal and other related activities are imposed on the party undertaking them or receiving the benefits.*

"We need to pose the question: how can we possibly share the Earth equitably? For that we need a market mechanism – we need an economic mechanism of Earth Sharing, so that the people who use and abuse nature, compensate the rest of us. At the same time this will make sure that our planet is preserved for future generations and for other species." – Frank de Jong (Leader, Ontario Greens)[2438]

2438 26:05->, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://realestate4ransom.com/

Some natural resources are not as strictly fixed in supply, not as location-specific and non-fungible, nor quite as unsubstitutably vital for mankind's survival as land, but yet their sustainable use quantities are limited and they are irreplaceable in the sense that their destruction would result in huge long-term opportunity costs (see: Graph 8). In the cases of some of these, private ownership can work as a way of ensuring that they are protected and their value is preserved, but for example in the cases of fish or whale populations this is a practical impossibility.

Game animals can, in some cases, be fenced to a game reserve area, and they can hence be owned by the owner of the forest or bit of savannah, but even such fencings often interfere with natural migration patterns of animals. A natural solution is that governments own all fishing and hunting rights and auction out sustainable use quotas to industries and private practitioners, as discussed under "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats".

Natural minerals are not subject to "extinction", as little of them are permanently destroyed in use. Nor are they irreplaceably vital nor strictly limited in the sense that land is. Mining, however, is an industry causing significant environmental destruction and posing even larger threats of contamination. Solutions:

- Mining rights should simply not be granted on the expense of preserving endangered habitats. And there would be no imperative to do so if it weren't for the "jobs", "growth" and "national competitiveness" arguments. The resulting scarcity of minerals will raise prices to encourage more efficient use of the mineral sources that are subjected to industrial exploitation.
- Access to natural ore reserves (a limited natural resource) should be taxed according to market value just like land (location value), transferring the majority of the value of the mineral rich soil to the government.
- Mining rights are a use right included in the ownership of land, increasing its value – just like zoning, which sets limits for construction.[2439] Therefore, mining rights should be granted for land only while it is in public ownership. Acquiring mining rights would require selling the land back to the government and attempting to bid it back in a fair auction after mining rights have been added – or the rise in market value resulting from granting such rights should be "confiscated" in another reliable way (to avoid windfall or political gains).
- External environmental damage (e.g. contamination of nearby areas or ground water) should be severely penalized, both by fines and through requiring full compensations for damage to the landowners involved.

Such costs imposed on mining would also make recycling and "remining" landfills very competitive options for acquiring minerals for the production of new products.[2440] How "rental models" and futures contracts allow investing in minerals without keeping them out of productive use was discussed in "4.2.4.10 Other Limited Resources Such as Minerals".

The case of fossil fuels was discussed in "3.4.1 Global Warming and Dependence on Fossil Fuels".

> **"Value added belongs to whoever added it. But the original value of that to which further value is added by labor and capital should belong to everyone. Scarcity rents to natural services, nature's value added, should be the focus of redistributive efforts." – Herman Daly, from a speech delivered 30th April 2002 at the World Bank**

2439 See: "4.3.1.7 Central City Planning and Zoning Make Unavoidable Externalities More Predictable".

2440 See: "3.4.3 Unsustainable Waste Management".

4.3.4 Making Natural Monopoly Industries Sources of Public Revenue

In short:

- *In industries with high benefits of scale or other significant entry barriers, fair and efficient competition can be practically impossible and, hence, private ownership can do more damage than create incentive to increase customer and employee value.*
- *Such natural monopoly industries would work better in public ownership, which allows setting incentives for management that e.g. directly encourage maximizing customer value given a set profit target.*
- *The monopoly rents collected by the government would reduce the need for other taxes.*

"Most of our once public utilities are privatized into powerful monopolies. Water and electricity supplies, private toll roads, television and phone networks are all forms of government granted monopoly. These are all unique assets of permanent and rising value and should directly benefits the public. Should corporations own these unique assets, these natural monopolies? Governments tend to auction off these resources at low, one-off prices in exchange for campaign funds." – "Real Estate 4 Ransom" documentary[2441]

"The expense of maintaining good roads and communications is, no doubt, beneficial to the whole society, and may, therefore, without any injustice, be defrayed by the general contributions of the whole society. This expense, however, is most immediately and directly beneficial to those who travel or carry goods from one place to another, and to those who consume such goods." – Adam Smith, An Inquiry Into the Nature and Causes of the Wealth of Nations (1776, p. 667)

As explained in "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'", the profit-seeking of individual companies can result in a market – an ecosystem – that produces benefits mainly for customers and employees through both incremental development and radical, destructive innovation. However, efficient and fair competition between companies is a minimum requisite for such an outcome.

In some industries it is extremely easy to acquire a natural monopoly position, preventing competition from working efficiently. In some cases, the market can be made more efficient with e.g. Pigovian taxes or removing full private ownership (e.g. the real estate and construction industries[2442]), removing unnecessary subsidies that create moral hazards (e.g. the financial industry[2443]), shifting to pricing models that remove the incentives to sustain problems and the need for treatment (e.g. the medical and pharmaceutical industries), or other industrial incentive restructuring. But in some industries, fair competition is almost impossible or results in more waste than added value. If there is a role for a non-voluntary-participation state (democratic or non-democratic),[2444] the main one should be to function as a common ownership vehicle for such industries and limited natural resources, mitigating the threats they pose to the economy and society.

Often all government operations are assumed to be unavoidably extremely inefficient, but as explained in "3.1.8 Public Sector Inefficiency", a lot of this is the result of the government's implicit responsibility to provide employment and the unwillingness of any politician to get "blood on his hands" for layoffs. Fixing the Root Bug and making it "socially responsible" and acceptable to reduce work "within employees" could eliminate a big part of this political incentive trap.

The public monopoly industries could operate as separate companies without any politicians directly involved in operations. The government would only act as the owner: It would receive dividends and name the members for the board of directors, who could set the incentives for the operative management team. The incentives should not be based purely on maximizing profits, because, in a monopoly industry, this would most likely result in restricting supply and other non-productive measures.

2441 27:26->, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://real-estate4ransom.com/

2442 See: "4.3.1.2 Land Value Taxation – Preventing Underusage, Extortion and Bubbles".

2443 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2444 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

rather, the companies could e.g. be given a preset profit or margin target and the management team could be incentivized to minimize costs (and hence prices) while staying within the profit targets. Service failures should be punished in the management incentives, and, in industries with bigger room for improvement in service quality, carefully chosen customer satisfaction metrics (gathered by third parties) could also be involved directly in the incentives.

So what are the natural monopoly industries where competition just isn't worth it? Unsurprisingly, many of these are linked to the number one limited vital resource: land, i.e. location – "the mother of all monopolies". Others are systems that aim to increase trust and easy cooperation by standardizing the rules by which cooperation is conducted – namely the legal and judicial systems[2445] as well as the management of the monetary unit used to account for debts and credits.[2446]

- The central bank and other central transaction clearing systems between financial institutions (e.g. central shareholder registries)
- Institutions enforcing the law
  - The police force
  - The judicial system
  - The penal/correctional system
  - Vehicle inspections and other permits
  - National defense
- Basic infrastructure:
  - Water and sewage pipelines and water purification
  - Streets and electric grids within cities
  - Public transportation systems within cities?[2447]
  - Central heating pipelines and physical data networks (e.g. glass fiber)[2448]
  - The national electric grid
  - Highways and other roads
  - The rail network[2449]
- Activities with "too-big-to-fail" environmental risks.
  - Storage of radioactive fuels and waste
  - Nuclear power?[2450]
  - Others?

Some industries are subject to debate. For example, mobile networks could be considered basic infrastructure nowadays, and duplication undoubtedly produces some waste here, too. However, mobile networks differ from other infrastructure in that cell sites are not as dependent on precise locations (and hence the ownership of a specific slice of land) as e.g. roads or pipelines. Also, in the recent years, rapid technological development and increases in demand for carrying capacity have made the coexistence of multiple networks almost necessary in any case. For example Finland, a relatively sparsely populated country, is currently covered by three mobile networks (those of Elisa, Sonera and DNA), which would be unlikely to occur if duplication was already extremely inefficient. Duplication (or triplication) in telecommunication networks – as vital as they are for modern economies – can also be argued to make the whole economy less fragile, and the added service security partly compensates for resulting inefficiencies. Also, as the main function of cellular networks starts being the provision of internet access and as even calls and text messages start operating through the IP protocol (Skype, WhatsApp etc.), local Wi-Fi connections start serving as partial competitors for nationwide 4G networks.

Since the transferability of phone numbers was made compulsory, competition has worked fairly well in the mobile operator industry (in some countries), at least in terms of limiting excessive profits and bringing down prices. However, it still remains a sector to be closely monitored by competition authorities, and it can be argued that (due to a relatively high proportion of fixed costs

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2445 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

2446 See: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral" and "Sidenote Box 2252B: Is Monetary Policy Distorting the Market? – The Dollar Is Not a Commodity, but a Unit of Account for Credit Relations".

2447 Implementation of parts – e.g. servicing individual bus routes – may be subjected to private competition. However, competing for-profit subway systems would be unlikely to result in an efficient whole. The lines would e.g. have the incentive to hinder people's chances to using the services of competitors, including other subways and bus services, reducing rerouting flexibility.

2448 As Comcast's CEO Brian Roberts says:
"Both in video and in broadband, we don't compete with TimeWarner. We have to start with that very fundamental point. They're in New York, we're in Philadelphia. They're in LA, we're in San Francisco. You can't buy a Comcast in New York, you can't buy a TimeWarner Philadelphia. So there's no reduction in competition [in the TWC deal]."
Comcast's Roberts: Comparison of TWC deal to old AT&T isn't valid, –7:49->, "Last Week Tonight with John Oliver (HBO): Net Neutrality", cited 2.6.2014, https://www.youtube.com/watch?v=fpbOEoRrHyU

2449 Not necessarily all of rail travel itself if two-lane rail roads allow flexibly selling use quotas for the tracks.

2450 See: "3.4.4 The Nuclear Power Case Example – Are All Risks Adequately Internalizable?".

and hence notable benefits of scale) a lot of its marketing activities are largely "distributive" in nature.[2451] This makes it worth considering whether, with the Root Bug fixed, it could work more efficiently as a public industry. At least with the public sector's current "job creation responsibility"[2452] nationalization seems unlikely to be a move for much better.

What about industries in the online world with massive benefits of scale and network effects that grant strong lock-in positions, like Google and Facebook? Google's search engines and email services provide it with an unbeatable amount of data for providing useful search results, well-targeted advertisements and insightful analyses from data mining while other social network services find it hard to compete with Facebook due to the difficulty of transferring social connections to another platform. Also new kinds of online content distribution services (such as Spotify and Netflix, if they e.g. manage to negotiate exclusive deals with content producers) as well as "market makers" (such as AirBnB and Uber) might be able to capture near monopoly positions in their respective markets.

Although these players currently seem hard to challenge, they are not in a similar position to exploit their customers at will as the owners of vital resources of limited supply would be. Making G-mail or Facebook accounts non-free services would be sure to cause a mass flee of users. The terms and conditions of these services tend to receive updates that some find concerning, but so far this concern as well as privacy and competition regulations have managed to keep any severe misuses of these terms from occurring. Both are constantly challenged by competitors (e.g. Bing against Google, Google+ against Facebook) and would be subject to a "paradigm shift" if a clearly better alternative were to emerge – despite the transaction costs (barriers to shifting) being quite high. Neither could afford to get much bad karma for abusing their position, as even one negative story has all the potential to corrode a well-built brand in a matter of days – largely due to the rapid information diffusion possibilities provided by social media itself.

Microsoft held a dominant lock-in position in operating systems and office software for years, but its power has recently waned. The fast development of digital technologies – both hardware and software – makes any competitive position uncertain. However, there is a role for competition and antitrust authorities to intervene in cartelization, excessive lock-in building and other anti-competitive actions by large corporations. In the case of digital service providers, privacy issues and related terms and conditions might also require some central regulation or easily adoptable condition standards. Here the author disagrees with the perspective of many Austrian economists who consider e.g. the formation of trusts and other cartels as a form of productive "entrepreneurial discovery" (Kirzner 2000, p. 21-22[2453]; Mises 1952, p. 134-135[2454]), ignoring the possibilities of extortionary, unproductive rent-seeking.

In terms of identifying potentially harmful monopolies, a varying range of indicators can be used. One such indicator could be the inverse relationship between a company's stock price and the market interest rate, as was explained in "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends On Future Consumption and Capital Intensity (and Monopolies)". However, this indicator is far from perfect. For example, luxury brands tend to be "monopolistic" in the sense that price competition does not work very efficiently when high price is a major part of the perceived value (namely status value) of the products sold. In this sense, lower interest rates should raise the stock prices of luxury goods companies. However, central banks tend to bring interest rates down when the economic environment becomes uncertain – at least in our current economies, where reduced demand causes income insecurity and hence self-reinforcing cyclical effects[2455] – and such uncertainties often have a bigger than normal impact on the demand for luxury. In reality, there are no *ceteris paribus* situations, as everything affects everything.[2456]

There would be lots of very valuable work to do in developing reliable and fair criteria for intervention by public competition authorities in order to prevent corruption and bias that companies could use against each other through political means.[2457]

In order to hamper the emergence of both monopolies and risks related to too-big-to-fail dilemmas,[2458] some kind of "Pigovian tax" based on the size of a corporation in addition to some combination of reliable monopoly

2451 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".
2452 See: "3.1.8 Public Sector Inefficiency".

2453 "To limit the size of firms (for example by obstructing mergers) is, in the entrepreneurial discovery approach, to block entrepreneurial entry, and is thus anti-competitive in the relevant sense." (2000, p. 22)
2454 "What makes a firm big is its success in best filling the demands of the buyers. If the bigger enterprise did not better serve the people than a smaller one, it would long since have been reduced to smallness." ... "Huge profits are the proof of good service rendered in supplying the consumers." (Mises 1952, p. 134-135)
2455 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".
2456 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
2457 See: "5.3.1 Suggested Subjects for Future Research".
2458 ...although fixing the Root Bug would make the economy much more robust, which alone would make fewer companies too big to fail (see: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence").

ndicators could also be considered and further
nvestigated.

5 WHY NOT BEFORE? AND HOW NOW?

"You cannot run away from a weakness, you must sometimes fight it out or perish. And if that be so, why not now and where you stand?" – Robert Louis Stevenson

"In order to change an existing paradigm you do not struggle to try and change the problematic model. You create a new model and make the old one obsolete. That, in essence, is the higher service to which we are all being called." – Buckminster Fuller

"Conformity is the jailer of freedom and the enemy of growth." – John F. Kennedy

"Because, you see, when we bring children into the world we play awful games with them. Instead of saying: 'How do you do? Welcome to the human race! Now, my dear, we are playing some very complicated games and these are the rules of the game we are playing. I want you to understand them and then you learn them and then when you are get a little older you may be able to think up some better rules.'

But instead of being quite direct with our children, instead we say: 'You're here on probation, you understand that? And *maybe* when you grow up a bit you'll be acceptable. But until then, you should be seen and not heard. You're a mess. And you've got to be educated and schooled and whipped until you are human.' So that these attitudes, which are inculcated into us in infancy, go on into old age. The way you start out is liable to be the way you finish." – Alan Watts[2459]

"Veritas odium parit – truth begets hatred." – Roman proverb

The Fourth Hawaiian Huna Principle: "Manawa – Now is the moment of power."

2459 (audio) Watts, Alan, "This Is IT: Become What You Are", lecture collection.

5.1 WHY WE DON'T SEE THE PROBLEMS FOR WHAT THEY ARE

"The problem, as in most cases of 'paradigm shift,' is that the consensus reality doesn't know it's dead yet." – Kevin A. Carson, Austrian and Marxist Theories of Monopoly Capital: A Mutualist Synthesis (2004, p. 2)

"One trouble with [LVT] which makes it almost impossible to achieve, is that it is so simple and so easy. You cannot get people to do anything that is simple; they want it complex so they can be fooled." – Clarence Darrow, The Land Belongs to the People (1916)

5.1.1 Our Emotional Attachment to Words

In short:

- *People usually don't "think concepts", but rather "feel words".*
- *Words like "inflation", "capital", "profit", "interest", "money", "corporation" and "productivity" have gathered strong emotional charges, making people classify them strictly into "good things" and "bad things". This prevents them from seeing their conceptual essence and causal relationships as well as many possibilities involving them.*
- *The fact that "frames (including the choice of words) trump facts", makes it very easy to get people to believe completely incoherent bullshit by appealing to their "final vocabulary".*

"Words are pale shadows of forgotten names. As names have power, words have power. Words can light fires in the minds of men. Words can wring tears from the hardest hearts." – Patrick Rothfuss, The Name of the Wind

"There is something about words. In expert hands, manipulated deftly, they take you prisoner. Wind themselves around your limbs like spider silk, and when you are so enthralled you cannot move, they pierce your skin, enter your blood, numb your thoughts. Inside you they work their magic." – Diane Setterfield, The Thirteenth Tale

"I know nothing in the world that has as much power as a word. Sometimes I write one, and I look at it, until it begins to shine." – Emily Dickinson

"Words are loaded pistols." – Jean-Paul Sartre

"Words, a letter and a letter on a string, will hold forever humanity spellbound. Words, possession of the beggar and the king. Everybody, every day you and I, we all can say words, regarded as a complicated tool created by man, implicated by mankind. Words, obsession of the genius and the fool..." – Anders Edenroth, The Real Group, Words

So what is it that has prevented us from considering these kinds of alternatives before? One big factor is that we are blinded by words and especially our emotional associations with these words.

A.J. Ayer and C.L. Stevenson were pioneering "emotivists" noting that words have strong emotional and attitudinal charges (connotations) in addition their conceptual meaning (denotation). This has the biggest implications in terms of ethics: Saying that something is "good" or "bad" or "wrong" or "right" doesn't actually describe a property of the object at all, but only tells about the talker's attitude towards it – how much he or she approves or disapproves of it. Saying "stealing is bad" is essentially the same as saying "down with stealing". "Honesty is good" means the same as "yea for honesty". In the emotivist view, ethical questions are thus completely subjective, and no final "good" or "bad" can be established by objective criteria. According to emotivists, to make a moral judgment is to express one's emotions and invite others to share them – and act on them:

"Thus if I say to someone, 'You acted wrongly in stealing that money,' ... [i]t is as if I had said, 'You stole that money,' in a peculiar tone of horror, or written it with the addition of some special exclamation marks. The tone, or the exclamation marks, adds nothing to the literary meaning of the sentence. It merely serves to show that the expression of it is attended by certain feelings in the speaker.

If now I generalize my previous statement and say 'Stealing money is wrong,' I produce a sentence which has no factual meaning – that is, expresses no proposition which can be either true or false. It is as if I had written "Stealing money!!" – where the shape and thickness of the exclamation marks show, by a suitable convention, that a special sort of moral disapproval is the feeling which is being expressed. It is clear that there is nothing said here which can be true or false." (Ayer 1936, p. 110)

"It is worth mentioning that ethical terms do not serve only to express feeling. They are calculated also to arouse feeling, and so to stimulate action. Indeed some of them are used in such a way as to give the sentences in which they occur the effect of commands." (Ayer 1936, p. 111)

"Good" and "right" (in their moral sense) are purely emotional words, but many other words also are strongly emotionally charged. For example in the context of food, "calories" and "energy" mean conceptually exactly the same thing (a calorie is a unit for measuring energy), but saying that food has calories often implies a negative attitude towards the matter, whereas a food being "energetic" has a positive emotional charge to it. We don't have to simplify the conceptual parts much to say that:

- Brainwashing is education of which we don't approve.
- Arrogance is self-confidence of which we don't approve.
- Greed is ambition of which we don't approve.
- Terrorism is freedom fighting of which we don't approve.
- Propaganda is communication of which we don't approve.

(To be more accurate, many of these words are complex bundles of associations – also conceptual associations, not just emotional. For example, "greed" can refer to at least (1) chronic dissatisfaction, (2) selfishness, (3) irresponsible shortsightedness and (4) taking inconsiderate risks – either separately or all of these collectively. "Ambition" would mainly be a type of chronic dissatisfaction, but when directed at relative things – like status – it can also be a kind of selfishness.)

In addition to the fact that words can have universal emotional connotations (included in their commonly accepted definitions), we also have our own emotional attachments with words and the ideas they represent. These associations are mostly instilled into us during our childhood and are strongly connected with the dominant morals of the society we live in. For example, we have been taught that "work" and "saving" are virtuous things, while "spending", "borrowing" and "debt" are things for which we should feel guilty. This makes "money" such a disturbing emotional contradiction for us: We get it for working and saving, which are "good", but on the other hand "money is the root of all evil". No wonder many people are emotionally confused when it comes to money.

A lot of these emotional and cultural fixations about the virtue of saving have their roots in ethics that have evolved hundreds of years ago in a world where capital was scarce and people lived hand-to-mouth.[2460] And we still live by these same outdated morals and try to find solutions through them. This is comparable to us trying to solve modern health issues caused by obesity, like cardiovascular diseases and diabetes, by eating more sugary and fatty foods, which is what medieval nutritional morals would've – quite wisely – suggested for undernourished people doing lots of physical work.

This book's sister "The Guilt Economy – Our Medieval Money Morals" aims to clarify big moral conflicts and help people alleviate unnecessary guilt. The book uses some strong and provocative metaphors to point out the contradictions in our economic thinking – and especially our *economic feeling*. Thus reader discretion is advised.

There have been examples throughout this book of both emotional associations and assumptions of causality[2461] or unbreakable coexistence embedded in concepts. "Profit-seeking", "asset stripping", "corporation", "downsizing" and "consumption" are just a few examples of words with immediate negative associations for many. Economists have their fixations too, "inflation" being one such popular demon with which they like to scare each other.[2462] On the other hand, "competitiveness"[2463] is a popular mantra in politics (Krugman 1994, p. 29) and for example Finnish economic discourse has been built around this maxim for many decades. (Heinonen et al 1996)[2464]

Similarly to how we can only see outside the conceptual "boxes" of our languages (incl. theoretical frameworks)[2465] by looking at these "boxes" from other "boxes" (discussing and describing them using other languages), it is hard to see past the emotional charges of words, unless we link them to words with a contradicting emotional charge. The author suggests the habitual practice of "connotation sarcasm" (or "emotivist irony") to increase open-mindedness, facilitate tolerance and understanding towards others' ideas and values, as well as avoiding being manipulated through choices of frames and the use of value-charged terms (by e.g. politicians and advertisers). This means using words with e.g. a negative connotation when talking or thinking about things one approves of (e.g. sincerely praising a nation's public education system as a "the most efficient brain washing scheme" in the world) or vice versa (e.g. an organic food activist referring to "genetic manipulation" as a form of "advanced biohacking" or a drought-induced famine as "natural population control"). The former are also called *dysphemisms* and the latter *euphemisms*.[2466] This is best practiced talking to oneself or to close friends familiar with this habit, as it involves significant risks of causing misunderstandings and seriously offending people.

Beyond individual words, whole expressions include assumptions. Some are discussed next in "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

"And nothing so shows the importance of language in thought as the spectacle of even acute thinkers basing important conclusions upon the use of the same word in varying senses." – Henry George, Progress and Poverty (1912, p. 30)

2460 See: "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution".

2461 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

2462 It also, etymologically, includes the assumption of a causal relationship between the quantity of money and its purchasing power. See: 5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2463 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

2464 Heinonen, Visa; Mykkänen, Juri; Pantzar, Mika & Roponen, Seppo, 1996, "Suomalaisen talouspolitiikan ajattelumallit", Helsinki, Kuluttajatutkimuskeskus.

2465 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

2466 "Euphemism", definition, Merria-Webster Dictionary, cited 16.10.2013, http://www.merriam-webster.com/dictionary/euphemism

5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance

In short:

- *People intuitively think about money as a "thing" or substance": something that "is" somewhere and can be "moved" freely from one place to the another and the creation and destruction of which is somehow cheating or unnatural.*
- *A better fitting conceptual metaphor than a "substance" would be "distance". Money, as a credit contract, is not an entity or an element, but a relationship between two parties.*
- *"Loans", "deposits", "lending/borrowing money", "creating/destroying money", "having money in the bank" etc. are as misleading terms and expressions as saying that you are "creating kilometers/distance" when you move further away from your friends and family.*
- *This misleading conceptual metaphor leads both economists and the general population to make intuitively appealing but completely misleading assumptions regarding how money "behaves" or what can be done with it – it's causal relationships.*

> "It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so." – Mark Twain

> "Our life is the creation of our minds, and we do much of that creating with metaphor." ... "With the wrong metaphor we are deluded; with no metaphor we are blind." – Jonathan Haidt, The Happiness Hypothesis (2006, p. 201)

> "The problem is, when you can't smoke, if you stand and stair out of the window on your own, you're an antisocial friendless idiot. If you stand and stare out of the window on your own with a cigarette, you are a f*cking philosopher. So the power of reframing things cannot be overstated. What we have is exactly the same thing, the same activity, but one of them makes you feel great, and the other one, with just a small change of posture, makes you feel terrible." – Rory Sutherland, Perspective is everything[2467]

> "Fantasies are cheap. Examined by themselves they may form a closed system and so appear acceptable to our understanding. Like miracles they are above nature, they grow and thrive in the brains of men. Translated into reality, however, they at once come into collision with facts." – Silvio Gesell, The Natural Economic Order (1916, Part 3, Ch. 3)

> "One factor is that there is a great fault in the language that we ... in relation to banking. The word 'deposit' is a hangover from the days of the goldsmiths who took bags of gold for safekeeping." ... "And we also speak of banks 'lending money'. Banks do not lend money!" – Victoria Chick (Emeritus Professor of Economics, University College London)[2468]

People relate to and predict the behavior the complex systems in the world around them through their "internal languages" and their mental models – which are most often metaphors of some sorts. The academic discipline of psycholinguistics studies how these models are strongly affected by the spoken languages we use, as is explained in more detail in "The Guilt Economy."

A metaphor that is implied in the way in which something is talked about is called a *conceptual* or *generative metaphor*. E.g. when, talking about a relationships, one says "we came a long way together before taking our separate paths", one is using the conceptual metaphor of a journey to describe the relationship. As another example, a battle is a common conceptual metaphor for a debate or argument: "The ministers dug deeper into their bunkers when the opposition commenced its final assault."

2467 1:04->, Sutherland, Rory, 2011, "Perspective is everything", TED Talk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perspective_is_everything.html

2468 12:22-> & 14:54->, Chick, Victoria, 2013, "Why don't Economists understand money? (Conference 2013)", viewed 4.3.2014, http://www.youtube.com/watch?v=EObtwxpD5zk

One such extremely harmful conceptual metaphor leading to completely misleading conclusions of causal relationships[2469] is in the terminology and expressions we use in the context of money. The expression "a medium of exchange" (in some languages, e.g. Finnish, "a tool of exchange") implies that money is some kind of substance or collection of objects. This perception is also upheld by the expressions of "lending money" and "borrowing money", when "borrowing" and "lending" usually refer to temporary changes in possession of items without a change in ownerships.[2470] If you – having forgotten your wallet at home – asked me to buy you a beer this weekend with the idea of you buying me one back next weekend, you saying "would you lend me a beer" sounds a bit odd, as it implies a promise to give back the same beer later after holding on to it.

Taking a loan from a bank is more like owing a friend a beer at the bar than borrowing his football for the weekend: It is granting credit – permission to delayed payment[2471] – to someone. The money (entries) in our checking accounts and cash in our wallets are only tokens of such credit. But yet you wouldn't say "I have a beer in/with Tom", "Tom is keeping my beer" or "I'm keeping a beer at Tom" to imply that Tom owes you a pint of beer, but you would say: "I have 100 e in the bank", or "I'm keeping my money in the bank". Maybe we should start saying instead "Bank A owes me 100 e", "I have 100 e of credit on my bank", "I am 100 e long"[2472] or "I'm up 100 e".

Also the concept of "inflation", which, etymologically, assumes the Quantity Theory of Money,[2473] can be seen as a part of this massive generative metaphor, emphasizing that quantity matters, as it does with substances.

In addition to lingual structures, this conceptual metaphor is enforced by the fact that we've come to associate money symbolically with notes and coins, which are physical objects. But notes and coins are just tokens – one way of accounting for credit (on the central bank). Although the notes and coins can be located in your wallet or in a piggy bank, the credit relationship they represent is not tied to a location and cannot be (physically) "moved" – only *transferred* to other people or institutions, which is what we call "payment". Relations are usually not located anywhere (e.g. "I put our friendship into garage").

This misleading conceptual metaphor of money as "things", "objects" or a "substance" that exists in itself, is located somewhere and can be moved from place to place is probably a factor allowing many myths to prevail in economics:

- The assumption that increased saving lowers banks' lending interest rates.
- The overreliance on the Quantity Theory of Money.
- The confusion between the "money supply" (the "quantity" of money) and the supply of money (the "policy interest rate"/the cost of credit/the "price" of money).[2474]
- Misleading expressions such as a "liquidity trap".

And more mundane assumptions such as:

- That taxes can only be collected from companies that "make" money by making profits.
- That wealth can (only) be increased by saving up money.
- That a drop in the value of money (inflation) makes people or the economy "poorer".

Starting to see currencies – dollars and euros – as units for accounting for debts and credits (units of account) would be a significant step in facilitating constructive and more creative economic policy discussion.

Just like other measuring units, you cannot keep them in storage. You cannot "have" 10 meters (or even 10 kg). Instead, you can be 10 meters ahead of or above someone (or have 10 kg *of* apples). Similarly, you cannot "have 10 euros", but you can have 10 euros of credit on someone (or you can have a house currently worth 100 000 e on the market). This is also the expression used with "ownership" of financial securities: having a *position* in it. Having a *"long position"* means you are on the "plus side" in it and having a *"short position"* means that you are on the "minus side" in it – that you have a liability the value of which is tied to the value of the target asset.

We shouldn't be surprised if it is hard for school kids to understand debt or negative numbers in general if we try to explain them as "minus three apples". What the ¢#±]≠§¶* does "minus three apples" look like!?! It is much easier to understand them as distances: that same distance in the *opposite direction* or being "behind" a line instead of in front of it. And that is why we rather demonstrate integers and other real numbers as points on a line instead of e.g. using black dots (or apples) for positive numbers

2469 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".
2470 See also: "Sidenote Box 126A: The Misleading Expression That 'Banks Lend Other People's Money" and "1.1.7 Ownership as a Bundle of Rights".
2471 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".
2472 "Long (or Long Position)", definition, Investopedia, cited 16.10.2013, http://www.investopedia.com/terms/l/long.asp
2473 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".
2474 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply is Endogenous".

and e.g. white dots or (empty apple shells) for negative numbers.

Another more suitable metaphor would be electric charges. Total money and credit in the system is like coulombs and relative credit balances of individual agents are a bit like volts. An increased positive charge implies something else increasing in negative charge. If local charges grow too big (some party becomes increasingly indebted and insolvent), this increases the risk of charges short-circuiting or light arching (a credit default) – causing a lot of damage and resulting in the charge being wasted without any productive use. The most important insight from this metaphor is that negative charges (debt) cannot be "destroyed" or removed without positive charges being annihilated as well.

Money is not the only thing in which economists and people are deceived and misled by language. In terms of sharing income opportunities, "jobs" is probably one of the most dangerous words. Its constant use in political discussion further enforces the dogma that work can only exist as these quantized chunks and that higher employment rates require there to be more work.[2475] The Finnish word "työvoima" is especially confusing, as it simultaneously refers to "labor" – *work* as a factor of production[2476] – and "the workforce", i.e. *people* who supply labor.

The English language is not devoid of such associations either: Think about the concept of a "labor party": a party for labor. Not even "laborers". These concepts strongly enforce the perception of the labor market as "trade of humans" – a kind of "human trafficking" – where human beings are bought and sold (between companies and trade unions[2477]) instead of it being flexible trade of services between employees and employers according their needs and preferences (supply and demand[2478]).

Frank Barrett and David Cooperrider have presented (1990) how the inception of a new generative metaphor can be used to foster more open and accepting dialogue between disagreeing parties subtly, in situations where direct attempts to solve the problem only escalate the conflict and opposition (i.e. have a "backfire effect").[2479]

> "When attempts are made to make people conscious of their negative attributions towards others and their defensive attributions in relationships, they all too frequently respond by becoming even more defensive." (Barett & Cooperrider 1990, p. 220)

Our political and economic scenes definitely need a "generative metaphor intervention".

The used vocabulary and frameworks play an even more significant part in politics (in which economic research is the major form of artillery[2480]). George Lakoff suggests that "frames trump facts", meaning that voters are more affected by politicians' choices of words and metaphors than empirical evidence or sound logical argumentation of causalities. (Pinker 2007, p. 259) This of course does not only apply to economics: e.g. abortion can be made to sound very different to people (especially emotionally) depending on how the fetus is referred to and who is deemed the active party in the process. (Pinker 2007, p. 243)

When considering the confusing etymologies and multiple definitions of words like "inflation", "capital", "economic growth", "wealth" etc., the whole history of economic thought starts looking like one massive victory march for the theory of linguistic determinism (informally referred to by the misnomer "Sapir-Whorf hypothesis") that people are very much governed by their language. There is significant *path dependence* in the way theories and concepts have developed and the assumptions embedded in concepts seem to have prevented economists from seeing some solution alternatives altogether.

A most dramatic case example of the human slavery to language is *praxeology* – "the Austrian method" (Hoppe 1995; Rothbard 1997). Praxeology starts with the "action axiom" – the "fact" that people act consciously toward goals – as an a priori truth, not requiring or even being subjectable to empirical evidence or falsification.[2481]

> "Praxeology rests on the fundamental axiom that individual human beings act, that is, on the primordial fact that individuals engage in conscious actions toward chosen goals." ... "Action implies that the individual's behavior is purposive, in short, that it is directed toward goals. Furthermore, the fact of his action implies that he has consciously chosen certain means to reach his goals. Since he wishes to attain these goals, they must be valuable to him; accordingly he must have values that govern his choices." (Rothbard 1997, p. 58-59)

> "Human action is purposeful behavior. Or we may say: Action is will put into operation and transformed

2475 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
2476 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
2477 See: "3.2.3 Unionization and Strikes".
2478 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".
2479 See: Backfire effect, "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".
2480 See: "5.2.4 The Religious Nature of Economics and Politics".
2481 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

into an agency, is aiming at ends and goals, is the ego's meaningful response to stimuli and to the conditions of its environment..." (Mises 1963, p. 11)

"The economist does not 'assume'; he knows. He concludes on the basis of logical deduction from self-evident axioms, i.e., axioms that are either logically or empirically incontrovertible." (Rothbard 1962, p. 582)

Essentially Austrian economists (especially von Mises, Rothbard and Hoppe) take two different definitions of the word "action" (1. doing things, 2. consciously striving towards goals) and then take it as an *a priori* truth that one must always be the other. If economics was just a study of language, with no attempts to draw conclusions about the real world or predict its behavior, this would be fine. Statements and "proofs" in mathematics (another language) need no empirical evidence either.

But, unfortunately, economics is "the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." (Robbins 1945, p. 16)[2482] And these Austrian economists make tons of allegedly "irrefutable" deductions regarding human behavior from this action axiom. This reasoning is comparable in validity to how some Christians might take the fact that "things exist" as irrefutable proof that these things have to have been *created* at some point and that, therefore, a *creator* must exist. Hans-Herman Hoppe, the high priest of this praxeological religion (and "apriorism" and "extreme rationalism"), goes further by not only deducing truths about how people behave but also a whole ethical system (how a society *should* work) from this action axiom and the non-aggression-principle, as well as the "argumentation axiom" he claims to be able to derive from them. Along "Hume's Guillotine"[2483] – "there is no ought from is" – "Hoppe's Guillotine" could be something as follows: "is and ought are, unquestionably, unchangeable and have always been because that's the way we talk".[2484]

2482 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

2483 See: "1.2.4 The Difference between Origin, Nature and Purpose (of Money) – 'Metallism' vs. 'Chartalism'".

2484 And if one is trying to be extremely "rationalist", refute the importance of evidence and form a perfectly "logical" (1) model of human behavior, (2) economic system and (3) values structure, one could expect one to be at least internally coherent about it.
"As a matter of fact, a situation in which these categories of action would cease to have a real existence could itself never be observed, for making an observation, too, is an action." (Hoppe 1995, p. 24-25)
"Praxeology is for the field of action what Euclidean geometry is for the field of observations (non-actions)." (Hoppe 1995, p. 82)

5.1.3 Taking a Step off the Road

In short:

- *It is more comfortable to stick to conventional theories and established ideological conflicts than to conduct thought experiments from scratch with a solution orientation.*

"One doesn't discover new lands without consenting to lose sight of the shore for a very long time." – Andre Gide

"To reach our destination, we must lose our way." – Tommy Hellsten, Courage to Surrender: 8 Contradictions on the Spiritual Path (2008)

"The world belongs to those who stand out from the rows of wayward and misguided silent souls. History is shamed by people laying blame to everyone who doesn't feel the same." ... "To change takes more than to remain. Therefore we lay back in the comfort of our chains." – Machinae Supremacy, Reanimator

Let's recite a joke for a change: "A drunk was searching for his keys under a lamp post. A passer-by offered to help. After a few minutes of diligently turning around every rock and looking behind every garbage bin, the passer by asked: "Are you sure you dropped them here?" The drunk replied: "No. I'm sure it happened at the other end of the street." Frustrated, the passer-by asked: "Why are you looking here then?" "Because the light is better here."[2485]

Unfortunately, this kind of tendency is not very rare for humans, nor for other living creatures.

When you are driving through a dark forest and you encounter a rabbit on the road, it naturally starts running away from the car, but when the road turns, it doesn't continue running straight forward but follows the road, staying right in front of the car. Why? Because it is easier and faster to run where one can see! That's why the rabbit follows the headlights of the car, which conveniently also happen to follow the flat road along which running is

2485 Adapted from the version recited in Steven Pinker's "The Stuff of Thought". (2007, p. 270)

easier than among shrubs or in deep snow. But as long as it stays in the headlights it has to keep on running. It takes quite a while before the rabbit takes the risk of jumping sideways off the road into the darkness.

Only when we manage to take that jump into the dark – at least mentally – and question some of our basic assumptions are we able to flip the central piece of the puzzle over and see how easily the jigsaws now click together – and see e.g. the senselessness of our desperate attempts to create more work and keep the economy growing by any means when we could instead get earning opportunities to correlate better with people's needs and have just as much growth and work as people really want.[2486]

"How many PhD papers are actually used – by someone ever? I mean, percentagewise it's not good." ... "It seemed like I could either do a PhD and watch the internet happen – or I could participate and help build it in some fashion." – Elon Musk[2487]

2486 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

2487 9:38-> & 10:12->, Musk, Elon, "A Conversation with Elon Musk", Khan Academy, viewed 27.7.2014, https://www.youtube.com/watch?v=-yDwzmlpl4io

5.1.4 Institutional Interests – Rogue Agents without a Principal

In short:

- *Although democratic politics is characterized by disputes between interest groups over resources and privileges, many conflicts disguised as such are rather conflicts between institutions (ideological and social structures) that are trying to maintain their own existence, roles and power – as ends in themselves.*
- *Such "rogue institutions" tend to result in "conspiracy theories", as people like to personify problems and assume that everything that occurs is intended by some group of individual human beings – when it would be more descriptive to say that humans are just a medium in the survival battle between self-preserving institutions and memes (ideas and behavioral patterns) in general.*
- *It is very dangerous and possibly counterproductive to establish an organization or any institution to fight against an enemy or to treat the symptoms caused by a problem, as such an institution then has every incentive to maintain (and even emphasize and escalate) that enemy or problem in order to justify its own existence (and expansion). It takes two to tango.*

"The real political task in a society such as ours is to criticize the workings of institutions that appear to be both neutral and independent, to criticize and attack them in such a manner that the political violence that has always exercised itself obscurely through them will be unmasked, so that one can fight against them." – Michel Foucault, The Chomsky-Foucault Debate: On Human Nature

> "Institutionalism [institutional economics] does not take the individual as given. Individuals are affected by their institutional and cultural situations. Hence individuals do not simply (intentionally or unintentionally) create institutions. Through 'reconstructive downward causation' institutions affect individuals in fundamental ways." – Geoffrey M. Hodgson, What Is the Essence of Institutional Economics? (2000, p. 318)

> "A man does not have himself killed for a half-pence a day or for a petty distinction. You must speak to the soul in order to electrify him." – Napoleon Bonaparte

> "Stand aside! You can't collide with a million years of pride and not fu**in' die." – Machinae Supremacy, Sidstyler

In "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'" and "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution", we presented the concept of memetic evolution and companies as organizational forms as examples of entities formed by memes – ideas, habits, practices, values, ways of thinking etc.

Just like genetic entities, memetic entities tend to develop a "self-preservation instinct" – sometimes also an expansion and reproduction instinct. This is an understandable result of an evolutionary process based on natural selection, as ideas that are not successful at preserving themselves don't usually exist for very long. A primary form of self-preservation for institutions in general (not just companies) is tying themselves to individual people's identities and self-esteems, which we are far more eager to protect than our physical well-being: Depressed people who've lost their self-esteem become self-destructive[2488] and some cultures (e.g. in Asia) even *expect* suicide from people who've "lost face" (Hofstede & Bond 1988, p. 6) – brought shame to some institution they value or belong to.

But institutions can also use other memetic constructs, like law (e.g. having a state or other government declare their existence legally), threats of exclusion from a group as well as employment relationships and other forms of economic dependence to keep people protecting their existence (recall the expressions "I just work here" and "I'm just doing my job"). And they can do this even when they no longer (otherwise) serve any person's or group's fundamental interests.

> "If something that makes no sense to you (say, religion – if you are an atheist – or some age-old habit or practice called irrational); if that something has been around for a very, very long time, then, irrational or not, you can expect it to stick around much longer, and outlive those who call for its demise." (Taleb 2012, p. 335)

For-profit companies are plagued by the agent principal-problem,[2489] where the agent (the company and its operative management) no longer necessarily acts fully in the long-term interest of its principal (the shareholders). However, they at least technically *have* a principal! To be more specific, what we call "profit-seeking corporations" are corporations seeking to produce value to some *external* party. They are *"beings for other"*, as Jean-Paul Sartre might say. And let's remind ourselves that a corporation can also produce value to its shareholders in some other form than by generating surplus credit and transferring it to the shareholders as dividends – if shareholders can together agree on such objectives. If a corporation isn't seeking to (1) produce value for some external entity, the remaining options are practically that it is either (2) seeking to produce value for entities *within* the corporation or (3) that it exists merely for its own sake – for the sake of existing. And the line between these latter two is often drawn in water: When people attach their identities to the institution, preserving the institution itself starts being value producing for the participants! In either case – using Sartre terminology – these corporations become *"beings for themselves"*. If a corporation is not "profit-seeking" it is essentially "self-seeking". And self-seeking corporations are just one subset of "self-preserving institutions."

Mostly harmless (producing little negative externalities) and (usually) net value producing examples of such organizations that exist mainly for themselves and their members include amateur sports teams, choirs, bands, reading clubs, scouts or theatrical groups. Here Dunbar's number[2490] becomes relevant again. It is quite hard to sustain small organizations of under 150 people that wouldn't be somehow (at least perceivedly) value-producing for all participants. However, in bigger organizations it more easily happens that the organization becomes a vessel for producing value mainly for a smaller entity (e.g. a group of people, though not necessarily) within the organization. Especially if the institution

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2488 Parker-Pope, Tara, "Suicide Rate Rises Sharply in U.S.", The New York Times, 2nd May 2013, cited 4.6.2013, http://www.nytimes.com/2013/05/03/health/suicide-rate-rises-sharply-in-us.html

2489 See: "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power".

2490 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

manages to somehow achieve a monopoly position so that those belonging to it or otherwise deriving net costs from it cannot "opt out" to establish a competing (i.e. alternative) one. Even in smaller societies such a "monopoly position" on the level of individuals can be created through strong social pressure, threats of other kinds of punishment for opting out or simply by people becoming otherwise (e.g. emotionally) dependent on the group. Such groups can easily start producing net negative value – for the whole society through negative externalities and even for the members themselves.

So the real threat with any corporation is not "profit-seekingness" but monopoly. Any organization that has achieved a monopoly position – especially in something vital – easily starts producing value for a small group of people or mainly maintaining itself on the expense of other people. Of course, also other possibilities of imposing externality costs on others are a problem.[2491]

Not-for-profit corporations, with no clear "ownership", but e.g. strongly predefined (or internally dictated) agendas and values[2492] should be an even bigger cause of worry than profit-seeking ones with clear corporate governance. Without a clear principal, they are practically rogue agents whose main concern is their self-preservation and maintaining the justification for their own existence. It seems to be quite the other way around in our currently dominant morality that is suspicious and condemning of any kind of "profit-seeking" and attributes negative associations to all kinds of "business".[2493] Which is more dangerous: clearly aggressive and bloodthirsty wolves on strong leashes, or an innocent looking, free-walking pet you'd defend at any cost that silently realizes you've become a threat to its existence and could claw your eyes out in your sleep or open the gas taps in the middle of the night?

Examples of such incentive problems and self-preservation agendas that exceed the final interests of any person or group have been presented throughout this book.[2494] As yet another one we could raise charity organizations. With no intent to say that charity would always be "evil" or "useless", the common assumption that charity (charity organizations, the agendas of donors or the whole "charity institution" promoting the virtue of "giving") would be "selfless" or "altruistic" should seriously be questioned. This book's sister "The Guilt Economy" discusses in more detail, how "guilt" and the need to contribute or "to be a good person" (as opposed to e.g. *empathy*[2495]) can sometimes result rather counterproductive means of "helping".

Even if all charity organizations weren't mainly aiming at making money for their operators and corporate fundraisers[2496], it is very likely that the charity organizations and the whole charity institution often have no interest in permanently solving the problem underlying their cause, because their *raison d'être* (including the justification for incoming donations and the availability of volunteers) is dependent on the existence of the problem. For example, let's (completely hypothetically) suppose that multiple sclerosis (commonly known as MS) would be curable or preventable by simple dietary means (as some suggest[2497]). In such a situation, charities collecting money for research on MS treatments and providing support for MS patients would certainly not want people to know about such possibilities – as it would render the organizations themselves pretty much redundant and curb their ability to collect further donations.

This does not mean that this would be a conscious strategy of the charity's management or any of its employees or donators. On the individual level, the institution's self-preservation mechanism could be observed as stronger than usual skepticism on behalf of the charity's employees and supporters towards (and low motivation to further investigate) such claims, simply because even considering the possibility that one's work or donations would have been in vain is a massive cause of emotional pain and *cognitive dissonance*. It's just a natural outcome of faith in the value of what one is doing (which, like hope and love, can be described as constructive self-deception[2498]).

2491 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

2492 Take e.g. the Waubra Foundation (http://waubrafoundation.com.au/) dedicated to finding health risks caused by wind turbines (although officially framed as "facilitate properly reviewed, independent research into the health problems which have been identified by residents living near wind turbines and other industrial sites which may have common cause") – or any other of the associations against wind energy established (Chapman 2013). There is no doubt that, initially, they might be serving a purpose the establisher and financier really believes in. Were the establisher to die, we would still have an ideological force with notable financial power opposing wind turbines to pertuity. If it manages to brand itself and lobby its agenda well enough to receive new funding, not even running out of capital will stop this machine from pouring money into hindering wind farm development, no matter what other research would say or what most people would think.

- Chapman, Simon, 2013, "Symptoms, Diseases and Aberrant Behaviours Attributed to Wind Turbine Exposure", retrieved 4.4.2015, http://ses.library.usyd.edu.au//bitstream/2123/10501/4/Wind_Disease_List.pdf

2493 See this book's sister, "The Guilt Economy".

2494 See: "3.2.3 Unionization and Strikes", "3.3.5 Resource Wars and Sustained Political Instability" and "5.2.1 The Personal Nature and Incentive Traps of Academia".

2495 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

2496 Hundley, Kris & Taggart, Kendall, "America's 50 worst charities rake in nearly $1 billion for corporate fundraisers", Tampa Bay Times, 6th Jun 2013, cited 21.8.2013, http://www.tampabay.com/topics/specials/worst-charities1.page

2497 Wahls, Terry, "Minding your mitochondria", TEDx Talk, TEDx IowaCity viewed 15.7.2013, http://www.youtube.com/watch?v=KLjg-BLwH3Wc

2498 See: footnote 170 and "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

Like John Maynard Keynes,

> "I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas." (Keynes 1936, p. 241)

When something goes wrong, we human beings tend to look for human culprits – that there is human greed, selfishness or other "evil" behind everything that is going wrong. And we end up with people coming up with conspiracy theories. (Lewandowsky 2012) This is possibly mainly because we want to maintain the illusion of our own independent free will[2499] and control, and that therefore some human beings must have deliberately planned whatever occurs for their own rational ends.[2500] Also, personifying the evil makes it easier to wash our own hands of guilt. But as Hannah Arendt suggests "evil" is quite a "banal" thing (the "banality of evil"): Even people who we consider "evil" often have, in their perception, good justifications for whatever they do and consider it quite normal (Arendt 1994). Instead, "evil" is more often the result of the conflicting interests of institutions or ideologies. As Michel Foucault put it, "power is everywhere" and "comes from everywhere" and it is the power that rules people – instead of power being a "tool" of coercion employed by people or structures against other people. Foucault's conception of "power" is not far from Dawkins's concept of memetics nor from Schopenhauer's concept of "will" of which the world, in his view, is composed.

When something that happens seems to be in the interest of no particular group of people, it usually occurs because it is in the interest of an institution. "Evil" is the making of institutions with conflicting values or overlapping ambitions. If there is such a thing as "pure evil" – something that almost everyone considers evil – it could be seen to be the result of institutions gone rogue. Often things end up being done only because "that's the way they've always been done" or "the matter at hand requires it".

Of course, something that is only in the head of one person might not qualify as an "institution".[2501] When an individual person turns destructively malicious towards a society (e.g. a public shooter), it is usually because no existing institution gives him the *approval* and *appreciation* he yearns[2502] – and the resulting feeling of meaninglessness induces the person to become everyone's villain in order to at least get (some) *attention*. This also reflects the desperate human need to be valuable in the eyes of some institution.

International Cultic Studies Association ICSA, for one, talks about cults as tools with which power hungry individuals exploit other people – instead of considering the possibility that the leaders of cults themselves are simply immersed into the role given to them by, first, the idea in their head, and then an emerged organizational structure – victims almost as much as their minions. This "tool" perspective of cults is clearly visible in the introduction by Steve K.D. Eichel, president of the ICSA:

> "The dangers posed by high-demand, manipulative cults will exist so long as there are people able and willing to exploit and abuse others."[2503]

From the institutional perspective, we could say that Adolf Hitler was the number one *victim* of Nazism, the racialist idea of the Aryan master race and a number of other both self-defeating and externally destructive institutions and ideas. (Captains fall in love with their ships and go

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2499 "Free will" is of course very much a matter of perspective and definition. Does a person in love have the "free will" to stop being so? Or a devout Christian the free will to become Muslim whenever it suits him? Or a Justin Bieber fan to choose not to be a "belieber"? Or a person who's always visited his relatives' graves on Christmas eve the free will to just stop doing that without a good "reason", justification? These people will most likely say that they "choose" to do and like these things because they really "want" to. But where did this "want" come from? They surely weren't born with these "wants" in their genes. I'm not writing this book because I choose to do so. I do so because I have to. The ideas infesting my head aren't giving me much of a choice. A meme caught through external influence or a lucky collision of existing memes inside my head might of course produce a meme that offsets those currently dominant ones telling me to write, but currently the memes (observable in the themes of all these chapters) are forming a very powerful "coalition" "lobbying" for a chance reproduce themselves as a whole between two covers. So powerful that it is hard to imagine a meme that could suppress their collective will – their will, which, now, I could also call "mine." Victor Frankl, in his book "Man's Search for Meaning" (1946), says we always have the freedom to choose how we respond to circumstances.

> "Everything can be taken from a man but one thing: the last of the human freedoms – to choose one's attitude in any given set of circumstances, to choose one's own way."

But aren't one's attitudes and responses determined by the ideas, mental models and associations with which that person's mind has previously become infested? And couldn't man's desperate "search for meaning" ("one's personal dedication to a cause greater than oneself or" … "one's surrender to a person other than oneself") – which Frankl declares to be the essence of a wortwhile life – be rephrased as "a desperate desire to be the vessel (slave) of an idea"?

Existential comics, by the way, also has a very deep strip involving a debate over how "willpower" should be defined:

– "How to Quit Smoking". Existential Comics, cited 13.6.2014, http://existentialcomics.com/comic/13

This perspective provides an interesting spark of inspiration in the context of justice and legal enforcement: should we maybe have a correctional system that focuses on "punishing" and treating the meme inside the convict's head that caused him to commit the crime instead of targeting the whole person?

2500 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2501 "2 a. A custom, practice, relationship, or behavioral pattern of importance in the life of a community or society: the institutions of marriage and the family."

– "Institution", definition, The Free Dictionary by Farlex, cited 13.6.2014, http://www.thefreedictionary.com/institution

2502 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

2503 ICSA website, home page, cited 18.6.2013, http://www.icsahome.com/

down with them – even when they haven't built them themselves.) But still we like to think of Nazism as something *caused* or even *created* by Hitler. Hitler himself writes in "Mein Kampf":

> "We may safely say that man does not live merely to serve higher ideals, but that these ideals, in their turn, furnish the necessary conditions of his existence as a human being. And thus the circle is closed."

Let's take for example smoking as an institution. There are few parties unaffiliated with the tobacco industry that have presented or try to present any positive health benefits from smoking cigarettes. Of course, there can be strong positive social benefits from smoking if one belongs to a group where it is widely practiced,[2504] but (starting from a clean sheet situation) many other institutions and habits could serve as a similar symbol for group membership and provide a similar excuse for small talk.

The tobacco industry of course does its best to maintain this habit by lobbying legislators and using versatile sophisticated marketing strategies (like product placement in movies and music videos). When talking about the morality of the tobacco industry, people easily conclude that it is run by "profit- and power-hungry capitalists with unlimited greed for money" and that these people and the monetary and capitalist systems are the reason for the evils the corporations' conduct. But money is just one incentive system that can support organizational and social structures. Blaming money (an accounting system of credits) is as much barking up the wrong tree, as blaming speech,[2505] people's favoritism towards friends or the habit of people greeting each other. It is simply the institutions of smoking and the tobacco industry that are fighting to preserve their own existence.

People are masters at finding ways to justify their actions and roles for themselves,[2506] and it is fairly probable that most people working in the tobacco industry don't consider promoting smoking their biggest ambition in life – or at least did not before joining the company. One easy justification is that if they didn't do what they did, someone else would – just like Adolf Eichmann embraced the role he was given as architect of "the solution to the Jewish question" and took pride in executing it as well as possible.[2507]

An institution does not require money or profit motives to exist. If the tobacco executive weren't playing the money game (e.g. the tobacco industry in a Communist economy), it would be some other measure of status and career success or the drive to justify and fortify their identities as part of the organization – like with labor unions.[2508] As Noam Chomsky explains it:

> "Our nature, the nature of humans allows all kinds of behavior. Every one of us under some circumstances could be a gas chamber attendant and a saint."
>
> "When you look at a corporation, just like when you look at a slave owner, you want to distinguish between the institution and the individual. So slavery, for example, or other forms of tyranny are inherently monstrous. But the individuals participating in them may be the nicest guys you can imagine." ... "As individuals they can be anything. In their institutional role they're monsters because the institution is monstrous."[2509]

What about nations and states? A lot of political discourse one hears from the U.S. makes it sound like many people take The Constitution as an unquestionable authority. The Constitution. A legal document drafted over a century ago. How could such a document in any way be an optimal guideline for a society in a world with a completely changed economic and technological environment – and a population over five times the size it was then? And even if the world hadn't changed, don't the rules of any game need some iterations for playability to be honed to perfection?[2510] But it's The Constitution. And it's a very powerful tool for the government in power and the whole federation's and all of the states' adjoined institutions to justify their existence and positions. And let's not even go here into us Westerners' unquestioned faith in "democracy".[2511]

Mankind has for over half a century feared becoming a slave of or being destroyed by machines that become self-sentient and start having agendas of their own. What makes this story even more interesting is how blind we are to the fact that we have always been slaves

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2504 There's an enlightening episode of the sitcom series Friends on this where Rachel tries to quit smoking and does significant damage to her career progress by missing out on important informal conversations with her colleagues and her boss.

2505 Of course, we can blame specific lingual structures for guiding our thinking and affecting the functioning of the institution, as explained in "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance". Similarly, we can blame aspects of a specific monetary system, like the zero lower bound or the free deposit guarantee – or "fractional reserve banking" if the allegations of its critics were true (see: "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'", "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives" and "3.1.2.1 The Perpetual Debt Hoax, a.k.a. The Fallacy of Unpayable Interest"). But blaming "money" in general – any kind of accounting tool for liabilities – is like blaming the existence of langauge or speech in general.

2506 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2507 "Thank you for smoking" is a must see movie.

2508 See: "3.2.3 Unionization and Strikes".

2509 "42:15-> & 43:30->, Bakan, Joel; Achbar, Mark & Abbott, Jennifer, 2003, "The Corporation", documentary, http://www.thecorporation.com/

2510 See: "2.1.6 Conclusions – How about a Game Design Approach?".

2511 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

of and are repetitively destroyed by "machines" (or, rather, "organisms") not composed of mechanical but of ideological and social structures that have no empathy towards any individual human beings – institutions. As Victor Hugo wrote:

> "One withstands the invasion of armies; one does not withstand the invasion of ideas."

Compare this to Norbert Wiener's words on the prospect of machines taking over:

> "Finally the machines will do what we ask them to do and not what we ought to ask them to do." ... "The genie in the bottle will not willingly go back in the bottle, nor have we any reason to expect them to be well disposed to us."[2512]

Regardless of how the social relationships (formal or informal) in a society are defined and arranged, institutions find their "footholds" and "grappling hooks" in people's habits, roles, identities, self-esteems, values and emotional associations.

When we take the perspective that humans have evolved into an efficient medium for memetic evolution, it becomes far more understandable why we are so stubborn, crony, loyal, dedicated and faithful – and especially why it's always *other people* that are so "stupid" or "evil". Social psychologist Jonathan Haidt explains this part of human nature better (and more credibly) than the author of this book does:

> "Our moral sense really evolved to bind groups together into teams that can cooperate in order to compete with other teams. So some situations will, sort of, ramp up that tribal 'us versus them' mentality.
>
> "And morality is part of our nature, and morality makes us do things that we think are good but also makes us do things that we often think are bad. It's all part of our groupish, tribal, judgmental, hyper-judgmental, hypocritical nature. We're all born to be hypocrites. That's part of the design."
>
> "Our minds evolved, not just to help us find the truth about how things work." ... "They [our minds] are finally tuned navigational machines to work through a complicated social network in which you've got to maintain alliances and your reputation."[2513]

And he also sees the analogy between people's "moral realities" and the virtual realities machines might create for us to serve their own agendas.

> "[T]he Matrix is a consensual hallucination generated by computers and then we all live in it. And I think this is a brilliant social psyc[hology] metaphor." ... "[T]he Matrix gets so closed in that each side here lives in a separate moral universe with its own facts, its own experts, and there is no way to get into the other Matrix – you can't just throw arguments or scientific studies at them and say: 'Here conservatives, deal with this finding!' It's not gonna do anything." ... "We all feel as though we're living in reality, but them, they're caught up in this Matrix, they're in Lah-lah-land. But we're all in Lah-lah-land. If you are part of a partisan community – if you are part of any community that has come together to pursue moral ends, you are in a moral Matrix."[2514]

So what are the main "policy implications" of this view point that institutions become agents in themselves with their own agendas and self-preservation instincts – other than the cliché "don't hate the player, hate the game"? At least that it is often a big mistake to create an institution (organization, movement, army, process, etc.) to *fight against* something (an enemy, a threat) or to treat the symptoms of a problem. When an institution's existence is based on a battle, symptom or an enemy, its self-preservation instinct will make it want to preserve and perpetuate that battle, enemy or the root cause of the symptom.

Once again, this is a logical result of memetic evolution: Institutions that are created to solve a problem but are "too successful" at it, die. The ones that survive through the decades and centuries are the ones that have managed not to succeed completely but still look good. If the problem that a charity exists to treat would be cured, the charity would commit suicide.[2515] If an army or intelligence agency manages to destroy or suppress all its enemies, it renders itself obsolete, or at least less important. Adam Curtis' blog post paints an interesting story of how the British intelligence agencies, MI5 and MI6, largely created and supported the scandal ridden double agent spy world by which they justified their existence and were essentially saved by "the war on terror", after almost being abolished by Thatcher.[2516]

2512 Markoff, John, 2013, "In 1949, He Imagined an Age of Robots", 20th May 2013, cited 16.6.2013, http://www.nytimes.com/2013/05/21/science/mit-scholars-1949-essay-on-machine-age-is-found.html?pagewanted=1&smid=tw-share

2513 3:36->, 5:57-> & 6:17->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

2514 15:25->, 15:50-> & 16:46->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

2515 How and why charity (even when it isn't built around an organization, but exists e.g. simply as a moral rule) often does not want to cure problems is discussed in more detail in this book's sister, The Guilt Economy.

2516 Curtis Adam, "BUGGER", blog post, 8th Aug 2013, The Medium and the Message blog, cited 17.8.2013, http://www.bbc.co.uk/blogs/adamcurtis/posts/BUGGER

In the corporate welfare state, there are all sorts of semi-political and semi-public organizations that mainly focus on exaggerating and marketing the problems they have been created to treat (e.g. alcohol abuse), in order to justify their own public funding – and jobs.[2517] They have little incentive to investigate whether the solutions (e.g. regulations and restrictions) they keep suggesting are actually effective or not, as long as it looks like they are doing something about the issue.

And what about this whole "war on terror"? The very fact that people have bought into this idea of fighting a war against a *war tactic* – terrorism – is an emblem of people's natural tendency to split people into "good" and "evil", without wanting to understand others' values, agendas or situations. Is someone seriously suggesting that "terrorism" is a religion (worshipping a "god of terror"), or a political ideology (e.g. striving for "a societal system based on terror"), or a society with imperialistic ambitions (terror dominating the world)? If the objective is to reduce *terrorism*, the most counterproductive way to do that is to fight terror*ists* – people or groups employing this war tactic – as it is likely to make them employ the tactic of terrorism even more eagerly, especially against you! And that of course suits well for a military institution that needs enemies to justify its existence, influence and share of public funding.

Communism, as an institution, fighting for workers against the "bourgeoise class"[2518] ends up – instead of eliminating classes – perpetuating the class warfare and the whole class setting. It needs its enemy. "Class consciousness" is best achieved through making the division into classes as clear as possible.

> "[Marx] considers it one of the objectives of a socialist party to awake to class consciousness those proletarians who are not spontaneously class conscious." (Mises 1957)

Marx even considered the class conflict to be what makes classes into themselves.[2519]

Similarly, gender equality is a very laudable objective, but "feminism", as a concept and institution,[2520] is slightly problematic in that it is simultaneously strife for "gender equality" and strife for "women's interests" or "right".[2521] For these agendas (directions) to be compatible, women have to be in a disadvantage position – in any field in which feminism intends to "operate". Hence, the institution has an inherent incentive to at least maintain *a perception* of women being oppressed.[2522] Of course this involves – usefully – increasing awareness of less visible discrimination, but in some cases it might end up even contributing (directly or indirectly) to sustaining inequalities as well as patriarchal attitudes and male chauvinism – even though no individual *feminist* would consciously be doing so. Indirectly this might happen by unnecessarily provoking support for counterforces like "traditionalism" or "masculism",[2523] justifying the existence of all of these institutions and blowing more flame into the "gender conflict", perpetuating it.

Rivals – like Oxford and Cambridge or Harvard and Stanford – don't weaken each other, but make each other stronger. And attacks are also often the mechanism that makes ideas "antifragile". Martyrdom is just one example of this.

> "'The higher you build your barricades, the stronger we become.'
>
> I have just bought Tom Holland's book on the rise of Islam for the sole reason that he was attacked by Glen Bowersock, considered to be the most prominent living scholar on the Roman Levant. Until then I had thought that Tom Holland was just a popularizer,

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2517 Eronen, Helena, "Alkoholipolitiikan taustapirut", blog post, 18.3.2014, http://blogbook.fi/helenaeronen/alkoholipolitiikan-taustapirut/

2518 "The proletarian movement is the self-conscious, independent movement of the immense majority, in the interest of the immense majority." … "Society can no longer live under the bourgeoisie, in other words, its existence is no longer compatible with society." … "The distinguishing feature of communism is not the abolition of property generally, but the abolition of bourgeois property." – Karl Marx & Friedrich Engels, Communist Manifesto (1848, p. 13 & 14)

2519 "So for Marx the focus isn't on the class – it's on the struggle. Basically Marx believed that the classes don't only struggle to make history, but that the struggle is what makes classes into themselves. The idea is that, through conflict, classes develop a sense of themselves – and without conflict there is no such thing as class consciousness." – Green, John, "Capitalism and Socialism: Crash Course World History #33", CrashCourse, viewed 18.3.2014, https://www.youtube.com/watch?v=B3u4EFTwprM

2520 Of course, there are different branches and aspects of feminism – it is not a coherent "ideology".

2521 "1: the theory of the political, economic, and social equality of the sexes
2: organized activity on behalf of women's rights and interests"
– "Feminism", definition, Merriam-Webster dictionary, cited 28.5.2014, http://www.merriam-webster.com/dictionary/feminism

2522 Jackson Katz made the point in his TEDx talk that the whole idea of "gender issues" as "women's issues" is a big part of the problem.
"A lot of men hear the term women's issues and we tend to tune it out: we think: 'Hey, I'm a guy – that's for the girls.'" …
"A lot of people hear the word 'gender' and they think it means women. So they think that 'gender issues' are synonymous with 'women's issues'. There's some confusion about the term 'gender'." … "In each case [gender, race, sexual orientation] the dominant group doesn't get paid attention to. Right? As if white people don't have some sort of racial identity or belong to some racial category – or construct." … "As if men don't have a gender. This is one way in which dominant systems maintain and reproduce themselves – which is to say the dominant group is rarely challenged to even think about its dominance, because that's one of the key characteristics of power and privilege: the ability to go unexamined, lacking introspection. In fact being rendered invisible in large measure, in the discourse about issues that are primarily about us [men]."
– 2.17->, Katz, Jackson, 2013, "Violence against women – it's a men's issue", TEDx Talk, TEDxFiDiWomen, viewed 6.6.2014, https://www.youtube.com/watch?v=KTySfeCRxe8

2523 "Masculism", Wikipedia, cited 5.4.2015, http://en.wikipedia.org/wiki/Masculism

and I would not have taken him seriously otherwise. I didn't even attempt to read Bowersock's review. So here is a rule of thumb (a heuristic): to estimate the quality of research, take the caliber of the highest detractor, or the caliber of the lowest detractor whom the author answers in print – whichever is lower.

Criticism itself can be antifragile to repression, when the fault finder wants to be attacked in return in order to get some validation. Jean Fréron, said to be a very envious thinker, with the mediocrity of envious thinkers, managed to play a role in intellectual history solely by irritating the otherwise brilliant Voltaire to the point of bringing him to write satirical poems against him." (Taleb 2012, p. 50-51)

"Affirmative action" and other proactive policies aimed at improving the positions of racial and ethnic minorities (previously oppressed or not) are practically countering discrimination (in this case racism) with discrimination in the other direction. These might possibly increase equality of outcomes (though not necessarily of opportunity[2524] [2525]) in the short run, but simultaneously they are sustaining the whole setting of categorizing people into these racial and ethnic groups and justifying treating them differently – and also making them distinct "interest groups" in politics.[2526] The same applies for radical ethnic minority movements, with their primary focus on boosting the self-esteems of the members of the minority – by boosting their ethnic identity.[2527] There is a big difference between promoting "counter-racism" and countering racism. Two wrongs don't (always) make a right. Nelson Mandela's philosophy was exemplary in avoiding an attitude of vengeance after the apartheid.

Brett Scott, in his book "The Heretic's Guide to Global Finance", suggests that the currently popular 'banker-bashing' (Scott 2013, p. 95) and demonization of finance is at most detrimental to efforts of reforming the financial system:

> "I've frequently been mistaken for a reformed banker, and often get asked for tales of corruption and skulduggery from 'the dark side'. I argue though, that the very concept of the dark side serves the interests of the entrenched financial regimes, particularly because it reinforces a *self vs. other* divide, which in turn reinforces an existing power dynamic that merely reduces one's access to the sector. If we are interested in reducing a power asymmetry, then a more effective method is to break that divide down, rather than perpetuate it. In short, I believe in developing greater empathy towards the sector." (Scott 2013, p. 96)

This gives a whole different perspective into why Jesus and many other philosophers throughout the ages have told people not to "fight evil with evil" – and why "fighting" it tends to make the evil bigger and stronger. Just like individual people become hostile when their self-esteems are at threat – and hostility towards them threatens it even more – whole institutions have a similar narcissistic, aggressively self-protective trait.

In for-profit business, incentive traps of "needing to sustain the enemy" can be seen e.g. in the medical and pharmaceutical industries, where revenues depend on the number of treatments or amount of medicine consumed. This creates a disincentive for solving problems completely (or at least too quickly). A less lethal case example can be found in *agile software development* charged per hour, where the supplier has an incentive to prolong the project as long as it can do so without damaging its reputations and the client relationship (e.g. the supplier might not advice the client against adding additional features, even if the supplier knew they'd reduce usability). This is an especially noteworthy issue when the client is the public sector operating with "taxpayer money"[2528] or another instance with a fiscal agent-principal problem.

If you want to solve a problem permanently, it might be advisable – instead of creating an organization for it – to make it a project, with a clear beginning and end, for an existing (or purely temporary) group of people or institution and ensure that the incentives are such that success does not threaten the existence and role of the group, including the chance to partake in future projects. And if you create a new institution or organization, (1) rather create it *for* something than *against* something, (2) don't define that something too narrowly (e.g. a specific means instead of a final end), in order to facilitate more innovative thinking and (3) ensure that there is some kind of corporate governance system to maintain a check that that something the organization has as its mission is revised by some external entity to ensure that it is still compatible with the rest of the society's "strategy" (and doesn't get too much influence over that strategy).

2524 Even equality of outcomes might experience a backfire effect: E.g. when employers can be sued for discrimination based on ethnicity at work or in firing decisions, they might be even more reluctant to hire such minorities. It is harder to sue for racism in hiring, because e.g. personality and fit into the company culture always matter in recruiting (see: "4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions").

2525 See: "2.1 Normative Principles – What Do We Want from an Economic System?".

2526 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

2527 "The black-white encounter groups were a disaster. The black radicals saw it as an insidious attempt to destroy their power. By trying to turn them into 'liberated individuals', Esalen was removing the one thing that gave them power and confidence in their struggle against racism: their collective identity as 'blacks'."
– 22:51->, "The Century of the Self – Part 3", documentary.

2528 See: "3.1.8 Public Sector Inefficiency".

For example, currently many, many structures and organizations have been created to "ensure economic growth", "create jobs" or "maintain the competitiveness" of a nation. All of these institutions have every incentive to ignore or even reject and block the presentation of ideas that question the "job creation paradigm",[2529] that might make the system independent (eliminate the absolute necessity) of economic growth[2530] or that say out loud that maintaining positive current account balances is globally unsustainable[2531] – or make other "inconvenient truths" more salient.

So, please *do* establish a party that has solving the Root Bug on its agenda, but *don't* create a "Root Bug Party" or any other organization the existence of which is dependent on the persistence of this problem. The Root Bug and its symptoms should be left in history. Rather, establish e.g. a "Sustainability Party",[2532] a "Non-Interest-Group Alliance" or a "Societal Game Design Party."[2533]

Are we ready to "kill our darlings", as one of the "rules" of improvisation theatre suggests? And consider solutions that might render current institutions (or at least their current roles in our societies) obsolete and unnecessary?

> "Where there is power, there is resistance." – Michel Foucault, The History of Sexuality 1: An Introduction

> "Fighting for their country. And for more than their country. Fighting for an idea. The idea bigger than the country. Without the idea, the country might have remained only a wilderness. Without the country, the idea might have remained only a dream." – Frank Capra's "Why We Fight"[2534]

> "Satan has been the best friend the Church has ever had, as He has kept it in business all these years." – The 9th of the "Nine Satanic Statements" in LaVeyan Satanism

> "If you want to make enemies, try to change something." – Woodrow Wilson

> "Nixon and Brezhnev have much more in common than we have with Nixon. J. Edgar Hoover has far more in common with the head of the Soviet secret police than he has with us. It's the international dedication to law and order that binds the leaders of all countries in a comradely bond. That's why we are all so surprised when they get together: They smile, they shake hands, they smoke cigars. They really like one another no matter what they say." – Howard Zinn[2535]

> "So we've created something called the collective brain. We're just the nodes in the network. We're the neurons in this brain. It's the interchange of ideas – the meeting and mating of ideas between them that is causing technological progress – incrementally, bit by bit, however bad things happen." – Matt Ridley, When Ideas Have Sex[2536]

> "So for Marx the focus isn't on the class – it's on the struggle. Basically Marx believed that the classes don't only struggle to make history, but that the struggle is what makes classes into themselves. The idea is that, through conflict, classes develop a sense of themselves – and without conflict there is no such thing as class consciousness." – John Green, Capitalism and Socialism: Crash Course World History #33[2537]

> "What if both parties continue to fight the war on drugs, just to give bureaucrats and cops bigger budgets and more jobs?" – Judge Andrew Napolitano[2538]

2529 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

2530 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence" and "3.1.2 Other Scapegoats for the Mystical Growth Dependence".

2531 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further".

2532 See: "5.3.3 Join the Discussion and Inspire Others in Your 'Language'".

2533 See: "2.1.6 Conclusions – How about a Game Design Approach?".

2534 4:16->, 'Frank Capra's "Why We Fight" World War II Propaganda Series', viewed 1.4.2013, http://www.youtube.com/watch?v=yBUKRAE-209c

2535 3:02->, "Matt Damon on Civil Disobedience", Matt Damon reading excerpts from a speech Howard Zinn gave in 1970, viewed 8.12.2013, http://www.youtube.com/watch?v=WZNrSnm3KSY#t=50

2536 15:11->, Ridley, Matt, 2010, "When Ideas Have Sex", TED Talk, viewed 12.12.2012, http://www.ted.com/talks/matt_ridley_when_ideas_have_sex.html

2537 Green, John, "Capitalism and Socialism: Crash Course World History #33", CrashCourse, viewed 18.3.2014, https://www.youtube.com/watch?v=B3u4EFTwprM

2538 1:16->, "Judge Napolitano: How to get fired from Fox in under 5 mins", Live Leak, 20th Feb 2012, cited 3.1.2014, http://www.liveleak.com/view?i=52b_1329796059#SvYw3Kei7rFF9DdQ.01

"Our modern states are preparing for war without even knowing the future enemy." – Alfred Adler

The First Hawaiian Huna Principle: "Ike" – "Our ideas create our reality."

The Sixth Hawaiian Huna Principle: "Mana" – "All power comes from within."

Hanlon's Razor: "Never attribute to malice that which is adequately explained by stupidity."

5.2 ACADEMIC ECONOMICS IS IMPORTANT – BUT IT IS NOT AN INNOVATOR

5.2.1 The Personal Nature and Incentive Traps of Academia

In short:

- *The prevalent, **romanticized view of academic science and the global academia** is that of a **cooperative, unbiased and open-minded network of scholars on a** relentless **impersonal quest for better and better theories of how the world works.***
- *In reality – **according to research – the academic world is a very politicized, change-resistant, hierarchical institution** revolving around **fame, power and personal relationships.***
- *We also **tend to associate academia with innovation and expect it to provide us** with solutions **and fresh applications for** technologies **although innovation – creating useful applications of theories and implementing them – has never been the main** task of **academia. Expecting innovation** from **academia is like expecting the mill to** invent a new **kind of cake.***

> "Science advances one funeral at a time." – Max Planck

> "The truth knocks on the door and you say, 'Go away, I'm looking for the truth,' and so it goes away. Puzzling." – Robert M. Pirsig

> "I saw how the university life goes, both in Europe and then in the US. I was at Penn State, and I was just aghast, because everyone was what I call drillers of deeper wells. These academics sit at the bottom of a deep well and they look up and see a sliver of the sky. They know everything about that little sliver of sky and nothing else. I scan all my horizons." – Vaclav Smil[2539]

> "[T]hat's how it always happens. Look at whistleblower culture. If you want to be a whistleblower you have to be prepared to lose your job. I'm able to do what I'm doing here because I'm nobody. I don't have to keep any academics happy. I don't have to think about the possible consequences of my actions for people I might admire personally who may have based their work on this and they end up looking silly. There are 160,000 psychologists in America and they've got mortgages. I've got the necessary degree of total independence." – Nick Brown[2540]

> "He ... was rather startled when he managed to create the long sought after golden Infinite Improbability generator. He was even more startled when just after he was awarded the Galactic Institute's Prize for Extreme Cleverness he was lynched by a rampaging mob of respectable physicists who had realized that one thing they couldn't stand was a smart-ass." – Douglas Adams, Hitchhiker's Guide to the Galaxy

We have a very romanticized view about the world of science and academia as an unbiased global society in a constantly questioning, infinitely creative and openly cooperative quest for truth – from infinity to beyond. Firstly, we have to make clear that the function of academia has never been *innovation*: applying discoveries and theories to solving problems and meeting human needs, and bringing such solutions into use ("marketing" them).

2539 Thompson, Clive, "This Is the Man Bill Gates Thinks You Absolutely Should Be Reading", Wired – Science, 25th Nov 2013, cited 30.11.2013, http://www.wired.com/wiredscience/2013/11/vaclav-smil-wired/

2540 Andrew, Anthony, "The British amateur who debunked the mathematics of happiness", The Guardian, 19th Jan 2014, cited 19.1.2014, http://www.theguardian.com/science/2014/jan/19/mathematics-of-happiness-debunked-nick-brown

Edison was not doing academic research in his tireless quest for electric light. Henry Ford's Model T and its assembly line production process allowing revolutionary production efficiency were not the result of lengthy publications in Management or Engineering journals. Neither was Frederick Winslow Taylor an academic when he started developing his new management tools and production process design methods that eventually became Scientific Management, a.k.a. "Taylorism". (Taylor 1914) And, allegedly, Taylorism took more influence from Fordism than the other way around. (Hounshell 1984, p. 249-253)

Theoretical physics can be seen as an exception in that the scientists developing the underlying theory are more often given the credit for the final innovations, but it is noteworthy that also in this field, most practical applications end up occurring outside academia, among real world problems – though unfortunately often in space exploration (e.g. the Apollo Program) or war technology (e.g. the Manhattan Project), instead of problems more relevant for the functioning of human societies.

The function of the academic world is rather to create order into the creative chaos of the entrepreneurial world:[2541] to build a standardized, stable body of more formally validated theories – frameworks and models – as well as carefully documented empirical measurements that can be used to assess their credibility and applicability. In essence, it is – and should be – a change resistance machine! Expecting innovation from academia is like expecting the mill (the facility producing flour out of grain) to invent (and bring to the market) a new kind of cake.

And, in practice, even this ideal view of an impartial, "neutral" entity is very romanticized. Looking more closely at the incentive structures of academia, we start seeing a world revolving around fame, reputation, loyalty to one's own cliques (peer groups) and constant politicizing. Robert King Merton, the founder of the sociology of science, noted that scientists are not after fame only out of their vanity, but that fame is a central form of capital (see: Graph 8) in the academic world and a prerequisite for successful future research: It is needed in the acquisition of resources for future research and for example recruiting high-level partners and students. (Kiikeri & Ylikoski 2013, p. 114-116)

The strong emphasis on novelty causes "priority disputes" – scientists fighting over who it was that first came up with a concept, a theory or evidence for a claim. These are examples where scientists strongly team together to protect the interests of their friends and colleagues. Despite novelty being appreciated as in "being the first to X", the fact that citing and referencing – e.g. using or critiquing the findings and frameworks of other scientists – are some of the most important ways of showing recognition and appreciation of other scientists' work, leads scientists to often write about popular subjects using popular frameworks. (Kiikeri & Ylikoski 2013, p. 114-116) Suggesting something completely outside the current paradigms easily risks making one an academic outcast, as others will be reluctant and unlikely to cite such work. As in any hierarchy, the ones at the top tend to get more recognition than they deserve (which Merton calls the "Matthew effect"), as fame is a signal of credibility and a significant criterion in choosing what articles to read with one's limited time. (Kiikeri & Ylikoski 2013, p. 117-118) Associating oneself with already recognized names is one way of "getting into the club".

This is likely to be one driving force behind Thomas Samuel Kuhn's (1962) finding that science does not progress via a linear accumulation of new knowledge – as Karl Popper's ideal of a continuous falsification process would suggest – but tends to stick to a dominant paradigm for a long time. A very large number of anomalies are required to cause the revolutionary emergence of a new paradigm – a "paradigm shift". An established paradigm persists even when inconsistencies are found, as people whose careers are invested in the paradigm will fight to maintain it. (This is another very good case example demonstrating the idea of the "selfishness of the meme" and the inherent "self-preservation" instinct of institutions.[2542])

Kuhn argues that so-called "normal science", which is guided by this kind of "paradigm umbrella" is very productive:

> "When the paradigm is successful, the profession will have solved problems that its members could scarcely have imagined and would never have undertaken without commitment to the paradigm." (Kuhn 1962, p. 24-25)

And this seems to make sense: Clinging to Newton's models of physics surely allowed more practically useful discoveries and applications than if they had constantly been questioned and attacked by competing theories. Similarly, Einstein's theories of relativity facilitated many inventions although they were later discovered to be inaccurate in and insufficient for describing quantum level phenomena. A coherent terminology and set of frameworks allows far broader constructive dialogue and experimental research than having to always define every concept from scratch.

2541 See: "1.1.9 Companies as Competing Organizational Forms".

2542 See: "5.1.4 Institutional Interests - Rogue Agents without a Principal" and "Sidenote Box 119A: Memetic Evolution Outpaces Genetic Evolution".

Highlighting the personal character of science, Ian Mitroff's case study of the scientists studying lunar rocks during the Apollo lunar missions demonstrated the commitment of scientists to their pet hypotheses and their resistance to contrary evidence and competing theories. A central finding was that not only were the scientists affectionately attached to their theories, but also they strongly associated other theories with certain scientists:

> "No matter what the topic – for example, the status of some technical physical theory – the scientists moved the discussion towards intensely personal matters." ... "Some scientists or group of scientists were clearly associated in the minds of the sample with each theory, serving as its personal advocates and defenders. Hence, the scientists could not react to a theory without reacting simultaneously to its proponents." (Mitroff 1974, p. 585)

Mitroff lists "counter-norms" "rooted in the personal character" that potentially conflict with the traditional norms rooted in its impersonal character. These include:

- "particularism" (counter to the norm of "universalism"): "The acceptance or rejection of claims entering the realm of science is to a large extent a function of who makes the claim."
- "interestedness" (counter to "disinterestedness"): "Scientists are expected by their close colleagues to achieve the self-interest they have in work-satisfaction and in prestige through serving their special communities of interest, e.g., their invisible college."
- "organized dogmatism" (counter to "organized skepticism"): "Each scientist should make certain that previous work of others on which he bases his work is sufficiently identifiable so that others can be held responsible for inadequacies while any possible credit accrues to oneself."
- "emotional commitment" (counter to "emotional neutrality") as "an instrumental condition for the achievement of rationality." (Mitroff 1974, p. 592)

In the view of most respondents in Ian Mitroff's study, only the general public and young students take the idea of objective and non-fanatic science seriously. No one really doing science believes in such myths. Mitroff quotes the interviewees:

> "Scientist B: The uninvolved, unemotional scientist is just as much a fiction as the mad scientist who will destroy the world for knowledge. Most of the scientists I know have theories and are looking for data to support them; they're not sorting impersonally through the data looking for a theory to fit the data."
>
> "Scientist C: The [emotionally] disinterested scientist is a myth. Even if there is such a being, he probably wouldn't be worth much as a scientist." (Mitroff 1974, p. 588)

The interviewees not only considered these norms of universalism and disinterestedness unrealistic to achieve in practice, but also proposed abandoning them altogether, as, in their view, "a good scientist" *should* be emotionally attached and committed to his theory.

> "Scientist D: If you make neutral statements, nobody really listens to you. You have to stick your neck out." ... "You have to get people to remember that you represent a point of view even if for you it's just a possibility. It takes commitment to be a scientist. One thing that spurs a scientist on is competition, warding off attacks against what you've published."
>
> "Scientist E: In order to be heard you have to overcommit yourself."
>
> "Scientist G:" ... "Science is an intensely personal enterprise. Every scientific idea needs a personal representative who will defend and nourish that idea so that it doesn't suffer a premature death." (Mitroff 1974, p. 588)

In light of these studies, we start seeing a strongly politicized and emotionally charged environment where relationships and reputation matter – and likely affect authority much more than any quantity or quality of evidence.

Evolutionary biologist Richard Dawkins is a great example of an advocate of "science", whose faith in its objectivity is reaching fundamentalist levels. Such an unquestioned idealist view of academic science could be referred to as "scientism" or "academicism". Just like believers of "actual religions" support their faith with myths, stories and anecdotes, Dawkins supports his for example with the memory of an academic who immediately gave up a pet theory of his after being presented with contrary evidence.[2543] Meanwhile the sociology of science has presented vast empirical evidence against the universalist, unbiased, indifferent and impersonal nature of academic

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2543 "I do remember one formative influence in my undergraduate life. There was an elderly professor in my department, who had been passionately keen on a particular theory for, oh, a number of years. And one day an American visiting researcher came and he completely and utterly disproved our old man's hypothesis. The old man strove to the front, shook his had and said, 'My dear fellow, I wish to thank you. I have been wrong these 15 years.' And we all clapped our hands raw. That was the scientific ideal of somebody who had a lot invested in the theory and he was rejoicing that he had been shown wrong and that scientific truth had been advanced."
– 15:35->, "The God Delusion", viewed 24.6.2013, http://www.youtube.com/watch?v=9FiHRVb_uE0

science, as described above. The fact that this individual story remains so vividly in Dawkins's mind should be a signal of how exceptional this case was – like the experience of a miracle cure being performed.

Also, Dawkins himself does not like calling the theory of evolution a "theory", but instead prefers calling it "the fact of evolution".[2544] While Dawkins insists that science always attempts to disprove itself,[2545] he himself is a prime example of how aggressively individual scientists avoid questioning (or considering alternatives for) theories to which they have tied their careers and personal credibility.

Much of what Dawkins says about religion and faith in his God Delusion documentary could be said about academic science or at least individual academic schools or scientists[2546] – and especially so about academic economics (the specific characteristic of which will be described in more detail under "5.2.4 The Religious Nature of Economics and Politics"), where the need to sound more certain about one's beliefs than one is, is rather salient, as Greg Mankiw writes:

> "Now, if you follow economic commentary in the newspapers or the blogosphere, you have probably not run into many humble economists. By its nature, punditry craves attention, which is easier to attract with certainties than with equivocation. But that certitude reflects bravado more often than true knowledge."[2547]

In social sciences, more generally, the review processes of journals might often put more emphasis on whether the research conclusions appeal to the reviewer's ideological stances than its internal coherence or the soundness of its methodology as Alan Sokal attempted to show with his hoax article "Transgressing the Boundaries: Towards a Transformative Hermeneutics of Quantum Gravity" published in Social Text. (Sokal 1996-1, Sokal 1996-2, Sokal 1996-3) On the other hand, even in the natural sciences some researchers can achieve an almost prophet-like status, making their ideas nearly unquestionable to their "disciples":

> 'When physicists failed to find meaning in Bohr's writings, no matter how hard they tried, they blamed themselves, not Bohr. (Einstein and Schrödinger were among the rare exceptions.) Carl von Weizsäcker's testimony is a striking example of the overpowering, almost disabling, impact of Bohr's authority. After meeting with Bohr, von Weizsäcker asked himself: 'What had Bohr meant? What must I understand to be able to tell what he meant and why he was right? I tortured myself on endless solitary walks.' Note that von Weizsäcker did not ask, 'Was Bohr right?' or 'To what extent, or on what issue, was Bohr right?' or 'on what issues was Bohr right?', but, quite incredibly, he wondered what must one assume and in what way must one argue in order to render Bohr right?' (Beller 1998)

In addition to ideological solidarity, attention and monetary incentives also distort the motives of academic publishers and entice scientists to dishonesty. After having spent 9 years disproving a research linking vaccination to autism, Brian Deer, is suggesting the establishment of committees to control the validity of scientific articles, pointing out that neither scientists nor academic journals have an incentive to weed out false findings, as both gain from the publicity brought by newsworthy publications and "research results".[2548] Also nobelist Randy Schekman criticizes "the tyranny of the luxury journals"

- for "artificially restricting the number of papers they accept",
- for the "impact factor" (based on the number of citations an article receives) they use as a metric in their marketing, and

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2544 Rabbi: "Judaism has its tradition. I think that there are various scientists who have their tradition. It's still called the theory of evolution..." Dawkins: "But it's still called that, but that's in a very technical sense..." Rabbi: "But still, it's called that and it's not called 'the law of evolution...'" Dawkins: "Well, I will call it 'the fact of evolution!'" Rabbi: "You are a fundamentalist believer?" Dawkins: "No, I'm not a fundamentalist believer." – 54:02->, "The God Delusion", viewed 24.6.2013, http://www.youtube.com/watch?v=9FiHRVb_uE0

2545 "Science is a discipline of investigation and constructive doubt, questing with logic, evidence and reason to draw conclusions. Faith, by stark contrast, demands a positive suspension of critical faculties. Science proceeds by setting up hypotheses, ideas or models and then attempts to disprove them. So a scientist is constantly asking questions, being skeptical. Religion is about turning untested belief into unshakeable truth, through the power of institutions and the passage of time."
– 10:28->, "The God Delusion", viewed 24.6.2013, http://www.youtube.com/watch?v=9FiHRVb_uE0

2546 1:10->, "In America's Midwest and in Israel, it became apparent how prone otherwise sane people are to extremisms, once they indulgence in faith – belief without evidence – when they give up reason. This film takes a hard look at the very concept of faith: how it behaves like a kind of brain virus, infecting generations of young minds. How it perpetuates outdated and dubious moral values."
4:22->, "Religious faith discourages independent thought, it's devicive and it's dangerous."
5:20->, "...and if we can retain our faith against the evidence, in the teeth of reality, the more virtuous we are."
6:30->, "This is a benign herd, but it supports a backward belief system that I believe reason must challenge." – "The God Delusion", viewed 24.6.2013, http://www.youtube.com/watch?v=9FiHRVb_uE0

2547 Mankiw, N. Gregory, "If You Have the Answers, Tell Me", 7th May 2011, The New York Times, column, cited 18.6.2013, http://www.nytimes.com/2011/05/08/business/economy/08view.html?_r=1&

2548 "Tieteellisiä julkaisuja pitäisi valvoa paremmin, sanoo palkittu tiedetoimittaja", YLE, 24th Jun 2013, cited 24.6.2013, http://yle.fi/uutiset/tieteellisia_julkaisuja_pitaisi_valvoa_paremmin_sanoo_palkittu_tiedetoimittaja/6702598

– for how the pressure (and incentives) to publish in these journals misdirects scientists' efforts.[2549]

Young and Karr (2012) suggest focusing the quality management efforts into changing the process instead of monitoring the outputs. In their solution suggestion, the data used in research should be split into two sets: a modeling data set and a holdout set, and requiring journals to "accept or reject the paper based on an analysis of the modeling data set without knowing the results of applying the methods used for the modeling set on the holdout set and to publish an addendum to the paper giving the results of the analysis of the holdout set." The "sword of Damocles" (constant threat) of being embarrassed by publishing research with invalid analytical models or statistical conclusions would give researchers and journals an incentive not to publish newsworthy-sounding research results purely for publicity reasons.

Because of the strong authority costs of admitting that one is wrong and the constant need to publish work with high publicity value, many fields have seen implicit "cartels", where scientists avoid challenging each others' findings, which facilitates using less robust data and methods. As John Gottman says:

> "Self-report data is easier to obtain, so a lot of social psychologists have formed an implicit society where they won't challenge one another. It's a collusion that makes it easier to publish research and not look at observational data or more objective data."[2550]

Only an actual outsider, with no established career can afford to challenge prevailing assumptions – and such "amateurs" tend to have a hard time getting published. Nick Brown was one such "beginner" who exposed the flawed mathematics in Barbara Fredrickson's and Marcial Losada's paper (Fredrickson & Losada 2005), which claimed "human flourishing" to be dependent on a set ratio of positive versus negative emotions:

> "If you want to be a whistleblower you have to be prepared to lose your job. I'm able to do what I'm doing here because I'm nobody. I don't have to keep any academics happy. I don't have to think about the possible consequences of my actions for people I might admire personally who may have based their work on this and they end up looking silly. There are 160,000 psychologists in America and they've got mortgages."

Also Nobel prize winner J. Michael Bishop agrees that "the outsider often sees things more clearly than the insider, and should not be intimidated by his inexperience." (Bishop 2003, p. 53-54)

The last decades have seen many popular television series focusing on the social networks and interpersonal conflicts of e.g. fictive medical and legal organizations. However, there is a clear market gap in such soap operas reflecting the human side of the academic world. Is academia really so sacred? Or do people just intuitively expect it to be boring because of its assumed neutrality?

According to John Ziman, the commercialization of science during the last decades of the 20th century has lead to the emergence of a new set of "PLACE norms" (proprietary, local, authoritarian, commissioned, expert), which characterize "post-academic science", in contrast to the CUDOS norms (communism, universality, disinterestedness, originality, skepticism) representing the ideals of 1950s and 60s academic science. This has forced scientists out of their "ivory towers" (to where they often like to escape the complexity of the real world), as their commissioners require results to have direct, practical applicability. But simultaneously this reduces impartiality as the commissioner's interests start having a bigger effect on what is studied and what is published. (Kiikeri & Ylikoski 2013, p. 133-135) However, as noted by Merton and Mitroff, academic science is rarely very impartial either. At least the partiality of commercial science is expected and rather transparent: We are naturally more critical towards results on cancer risks published by a tobacco company than an academic institution.

The biggest danger of academic science is that most people are unaware of its (largely unavoidable) partialities. The objective here is not in any way to blame or demonize academic science. A neutral, impersonal, human institution is likely to be an impossibility – especially if it is to maintain its creativity.[2551] The intention is to make us see the nature of academia more clearly from different perspectives and ask again, *what roles* we want to give to it[2552] and what we can expect from it.

Of course, more and more of academic research, too, is funded by the private sector. In many natural sciences, technological research and management studies, the "client" is usually a technology company or industrial firm utilizing the developed technology or method. The equivalents of these "clients" in economics are more often political entities. Economic research results are a primary

2549 Sample, Ian, "Nobel winner declares boycott of top science journals", The Guardian, 9th Dec 2013, cited 20.12.2013, http://www.theguardian.com/science/2013/dec/09/nobel-winner-boycott-science-journals

2550 Andrew, Anthony, "The British amateur who debunked the mathematics of happiness", The Guardian, 19th Jan 2014, cited 19.1.2014, http://www.theguardian.com/science/2014/jan/19/mathematics-of-happiness-debunked-nick-brown

2551 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

2552 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

weapon in political disputes and electoral campaigns.[2553] This relationship between economics, interest groups and political ideologies is discussed in more detail in "5.2.4 The Religious Nature of Economics and Politics". Another important stakeholder group that finances research and that undoubtably has interests in what kinds of results are published is the financial sector. For example maintaining the popular myth that saving is always beneficial for an economy and that banks invest or "lend on" all savings into something productive[2554] is surely in the interest of the banking industry: The more people save and borrow, the bigger their market is.

Recently, there has been lots of criticism also of the fact that a large share of the efforts of academics nowadays goes to applying for research grants and other funding. It might be desirable to have some kind of external party assessing what is worth studying and what isn't, in order to prevent academia from becoming a secluded institution, purely aiming at preserving itself[2555] with no considerations for the needs of the surrounding society. Also, competition *of some sort* between research organization could allow progress in academic processes and structures – even reinventing the way science is done. But competition in what? What are the criteria for "good" and "relevant" research and who should be the judge? It should seriously be questioned whether the kind of competition resulting from the current funding (and publishing) system – where individual researchers and teams constantly have to focus on the marketability of their ideas to foundations (and publicity-hungry or protectionist journals) and put efforts into heavy application processes – is the most efficient way of achieving such "corporate governance", or the one leading to the most constructive and useful high-quality research. Reinventing academia is not in the scope of this book.

For less formal but enlightening reading on the academic institution's power structures and innovative capabilities, see www.phdcomics.com.

> "We have artists with no scientific knowledge and scientists with no artistic knowledge and both with no spiritual sense of gravity at all, and the result is not just bad, it is ghastly." – Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance (2006)

> "If nineteenth century France, which was the cradle of the new science [of economics], has completely ignored it, the fault lies in the idea, so bourgeois in its narrowness, of dividing education into two separate compartments: One turning out calculators with no knowledge whatsoever of sociology, philosophy, history of economics; and the other cultivating men of letters devoid of any notion of mathematics. The twentieth century, which is not far off, will feel the need, even in France, of entrusting the social sciences to men of general culture who are accustomed to thinking both inductively and deductively and who are familiar with reason as well as experience. Then mathematical economics will rank with the mathematical science of astronomy and mechanics; and on that day justice will be done to our work." – Leon Walras, 1900

> "But experts are human, and humans respond to incentives. How any expert treats you, therefore, will depend on how that expert's incentives are set up." … "*'Experts' – from criminology to real estate – use their information advantage to serve their own agenda.* However, they can be beat at their own game. And in the face of the internet, their information advantage is shrinking every day…" – Steven D. Levitt & Stephen J. Dubner, Freakonomics (italics in original, 2005, p. 6 & 12-13)

2553 See e.g. the Reinhart-Rogoff case in "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".
2554 See: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance" and "1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'".
2555 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

"If the goal of a group is to find truth, then you don't want too much cohesion. You actually want people to challenge. George Will has a line, 'In the academy they want diversity in everything except thought.' And he's right: We actively discriminate against people who think differently..." ... "I'm a research psychologist. I don't get angry. I get even – with data." – Jonathan Haidt[2556]

"The discipline of colleges and universities is in general contrived, not for the benefit of the students, but for the interest, or, more properly speaking, for the ease of the masters. Its object is, in all cases, to maintain the authority of the master, and, whether he neglects or performs his duty, to oblige the students in all cases to behave to him as if he performed it with the greatest diligence and ability. It seems to presume perfect wisdom and virtue in the one order, and the greatest weakness and folly in the other." ... "If the authority to which he is subject resides in the body corporate, the college, or university, of which he himself is a member, and in which the greater part of the other members are, like himself, persons who either are, or ought to be teachers, they are likely to make a common cause, to be all very indulgent to one another, and every man to consent that his neighbour may neglect his duty, provided he himself is allowed to neglect his own. In the university of Oxford, the greater part of the public professors have, for these many years, given up altogether even the pretence of teaching." – Adam Smith, An Inquiry Into the Nature and Causes of the Wealth of Nations (1776, p. 624 & 622)

"I notice, when I try to explain this to a lot of people ... what's wrong with Searle['s Chinese room argument against artificial intelligence] – their eyes glaze over. And I realize that if I prod them a little bit I know why: They hate the idea that artificial intelligence is possible. They love the fact that a 'Berkeley professor' has an argument that has as its conclusion that artificial intelligence is impossible. And that suits them just fine – they don't want to hear the details. They like the conclusion – 'Don't bother me with the details.' It looks to them like nit-picking. I used to hold that attitude in contempt – I though this was the worst sort of anti-intellectual attitude. And then I caught myself doing it..." ... "I will confess that I find the Copenhagen interpretation of quantum mechanics ugly, offensive. I just don't want it to be true! And I don't want it to be accepted." ... "I've always felt oppressed by the Copenhagen interpretation and thought 'Uh, gosh... – I just don't want that to be right.' And then Murray Gell-Mann, Nobel laureate in physics, in his book 'The Quark and the Jaguar' takes off after the Copenhagen interpretation. And he just beats the tar out of it!" ... "And I find myself reading that and sort of: 'Hit him again Murray! I love this, I love this!' And then I realize I'm not qualified to judge Murray Gell-Mann's argument. Maybe I'm just taken in by the rhetoric and the fact that he's got a Nobel prize. I'm so pleased that there is a Nobel laureate who's on my side." ... "A lot of people want Searle to be right. They are offended by the idea of artificial intelligence and they don't want to listen to some nit-picker who says the argument doesn't work." – Daniel Dennett[2557]

"This is kind of how we used to do innovation: We'd find a bunch of fairly similar looking people, we'd take them out of elite institutions, we put them into other elite institutions and we wait for the innovation. Now, as a white guy who spent his whole career at MIT and Harvard, I got no problems with this."... "The work of innovation is becoming more open, more inclusive, more transparent and more merit-based. And that's gonna continue no matter what MIT and Harvard think of it, and I couldn't be happier about that development." – Andrew McAfee[2558]

2556 32:14-> & 1:01:10->, Haidt, Jonathan, "The Rationalist Delusion in Moral Psychology", lecture, viewed 20.2.2014, http://www.youtube.com/watch?v=kJlwQswRVaU

2557 35:28->, "Daniel Dennett on Tools To Transform Our Thinking", lecture, cited 20.1.2014, http://www.youtube.com/watch?v=EJsD-3jtXz0

2558 10:25-> McAfee, Andrew, 2013, "Andrew McAfee: What will future jobs look like?" TED Talk, viewed 17.6.2013, http://www.ted.com/talks/andrew_mcafee_what_will_future_jobs_look_like.html

"The four academics rejected my book, interestingly for four sets of completely different reasons, with absolutely no intersection in their arguments. We practitioners and quants aren't too fazed by remarks on the part of academics – it would be like prostitutes listening to technical commentary by nuns." …

"There is a shockingly small number of academics among French authors. American writers, on the other hand, tend to become members of the media or academics, which makes them prisoners of a system and corrupts their writing, and in the case of research academics, makes them live under continuous anxiety, pressures, and indeed, severe bastardization of the soul. Every line you write under someone else's standards, like prostitution, kills a corresponding segment deep inside."
– Nassim Nicholas Taleb, Antifragile (2012, p. 264 & 164)

5.2.2 How Would You Roll out a New Operating System?

In short:

- *The purchasing department of an organization seldom has direct incentives to consider new alternatives. If you want to sell a new tool or operating system to an organization, you need to first sell its value to the end users. Only when they start demanding for it, does the purchasing department have the incentive to take it into consideration.*
- *Similarly, politicians and academics have little direct interest in solving problems. They only start paying attention to solution options and ideas if being associated with these ideas gets them more votes or research funding – or otherwise builds on their image and status. Therefore the first step is getting the alternatives into general awareness and consideration.*

"If I'd asked my customers what they wanted, they'd have said a faster horse." – Henry Ford

"In any great organization it is far, far safer to be wrong with the majority than to be right alone." – John Kenneth Galbraith

"George's unwillingness to forge political alliances poses the question of how much the success of an economic theory depends on the strategy by which it is introduced. What is the role of character in determining the fortunes of one economic doctrine rather than another?" … "May a seemingly appropriate and realistic body of theory lose out in the political and intellectual marketplace? To what extent does the determining factor in the success of an economic theory lie in the political lobbying of special interests rather than its objective explanatory capability?" – Michael Hudson, Henry George's Political Critics (2008, p. 5-6)

So why the books and video material and website and the prototype party?[2559] Why not attempt to reshape economic perspectives from "the source", the academic world and start by presenting the theory in a doctoral dissertation or other official publications? And why would you need to participate?

As explained before, economics is not studying fixed, pre-existing natural laws,[2560] but the behavior of people in the context of allocating resources – which always happens under some set of institutions and rules.[2561] The rules can be changed and such changes can fundamentally alter the "laws of economics". "Economic engineering" – new configurations of rules or institutions – can change the outcomes of economic systems and the research possibilities of economic science much more than e.g. electronic engineering can change the laws of physics. An electronics engineer cannot make electrons suddenly attract each other, while an economic engineer can turn a subsidy into a Pigovian tax or eliminate the zero lower bound of interest rates. It is not wise to be bound by existing models and empirical results – which cannot have considered all possible configurations and types of incentives (even if all the quirks of human behavior would somehow finally have been discovered[2562]).

But additionally, because we live in a democratic compromise world[2563] and because the creative potential of 100 million always exceeds that of 5.[2564] And because institutions have a self-preservation instinct that easily overrides any external benefits a solution might have.[2565]

If you came up with an algorithm that you thought might allow creating the world's most efficient operations control system, bypassing those of SAP and Oracle by miles, would you go and lock yourself into a cubicle for five years to complete a master's degree in computer science and for another three to publish a doctoral dissertation on the algorithm? No! By the time you get out of your cubicle, the algorithm will likely be hopelessly outdated. You would rather establish a startup company, make a prototype or demo for pitching the idea and start looking for partners and potential clients with whom to develop the idea further into a working proof-of-concept and pilot set up as soon as possible. I.e. you'd start "selling" it immediately in order to get the necessary feedback from clients to fine-tune the solution to suit their needs – or falsify the potential of the algorithm, rather sooner than later: In entrepreneur jargon: "fail fast". In either case, the algorithm alone – without being developed and combined with other elements into a solution – is useless. What if Bill Gates, Steve Jobs or Mark Zuckerberg had decided to do a PhD and pursue academic credentials? We would never have seen Windows, iPhones or Facebook as we have (how graphical operating systems, smartphones and social media would have evolved without these paradigm shifts is of course impossible to know).

And one cannot say that we did not contact researchers and politicians fiercely. But few had the time or incentive to prioritize external ideas not part of the existing academic literature and hence with a low chance of helping them build their status and gain associations with globally reputable names in economic circles. Of economic academics, the ones who could spare a few minutes were quick to end the conversation when any new hypotheses or perspectives (not "based on the existing body of research" or "not a part of economics") were brought up – or simply on the grounds that some of the vocabulary used wasn't completely coherent with the ones in their favorite frameworks and the textbooks they taught.

For example, all their textbooks said about "sharing work" was that limiting working hours had been proven inefficient many times over[2566] and that any such idea must be based on the "lump sum of labor fallacy". They had no interest in considering how more flexible ways of incentivizing sharing could have different effects and change many of the conclusions in existing theories (NAIRU, cyclicity etc.[2567]) – an assumption that could be called the "lump sum of labor per employee fallacy."

This is understandable: When one's primary objective is to perfect and hone existing theories and frameworks (and to ensure one's own name is written as part of them), any hypothesis that does not fit into these theories is rather a nuisance and a threat – especially a hypothesis that might render many of the existing frameworks obsolete. Taking a look outside the box is not your first priority when you are busy painting the insides of the box and focusing on trying to leave your own tag somewhere with thousands of other ambitious graffiti artists competing over every square foot.

Experts of other fields – critical of the economics discipline as it is popular to be – were more interested in the idea, but, understandably, were not very eager

2559 See: "5.3.3 Join the Discussion and Inspire Others in Your 'Language'."
2560 "Still, I find myself living in some envy of the artist. We scientists are slaves to the puzzles performed by nature and to our rules, whereas artists create their own puzzles and solve them by breaking rules." (Bishop 2003, p. 54)
2561 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".
2562 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".
2563 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
2564 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".
2565 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".
2566 See: "2.3.3 The Paralyzing Assumption: 'Work Sharing = Work Time Restrictions'".
2567 See: "3 Why We Need to Fix the Root Bug".

to invest in developing the idea further or trying to get it into public discussion. They, too, had little to win in becoming associated with an idea with no existing traction in academia or the general public discussion. However, many discussions have been very enlightening and yielded invaluable comments and sources for which the author is grateful.

The thing we should all learn about B2B (business-to-business) sales is that if your hit rate in booking meetings is bad or your clients don't take you seriously in meetings, it is not because your solution would be bad or that you wouldn't have logically valid arguments. Even if your solution was faulty, the client couldn't possibly know it at that point. It is more likely because:

- Your message (booking script) isn't clear and simple enough.
- Your message does not connect with the person on an emotional level.
- Your message does not connect with or is somehow conflicting with the contact person's personal agendas.
- You don't have enough brand equity:
  - Broad and deep awareness
  - Strong and favorable associations (Aaker 1995)

The people who make purchase or acquisitions decisions – like the procurement department or IT development unit in a corporation – are usually not the same ones who are using the purchased products or solutions and they always have their own incentives and agendas, which might e.g. be linked to securing their own position and bonuses. Thus, even if they suspected that you might have the best available solution – or at least one worth investigating from the perspective of the organization they are representing – they don't have much of a personal incentive to do the investigation. It is safer for their position to maintain the status quo and not let anyone know about anything better, because accidentally suggesting something that runs into trouble – or might cause nuisance or change resistance despite being a good choice in the long run – risks putting blame on them and hampering their career progress.

They won't start considering new alternatives before a large number of *users* (or their superiors who decide their professional progress and bonuses) start demanding these to be considered. If the buyers then still ignore the entrepreneur's calls, they'd risk losing their job due to complaints from the users. But until the users know that they have a reason to complain, no one can blame the procurement department for not having time to test every single solution on the market.

So the most efficient way to get a new operations system sold and implemented, is to show the users it works and get them interested enough to tell colleagues and superiors about it. The colloquial (rhetorical) expression "speak to the hand because the ain't listening" has a constructive meaning in this context. New gloves might not *look* like one needs them. You have to make the hands *feel* the difference.

The users ("the hands") of an economic system ("the gloves") are all of us – the people operating in it. The buyers ("the ears") in this case are politicians and researchers, both of whom are primarily concerned with their own positions. Politicians need votes, which they get by being diplomatic, predictable and "politically correct" and by appealing to the voters' emotions and values – not a position where you'd want to start suggesting breakthrough changes, and definitely not ones threatening the positions (or privileges and other "achieved benefits" of currently politically influential institutions (e.g. unions[2569]) or well-established interest groups.

Researchers need funding and security for their research groups and they get this by publishing papers and papers are always easier to get published if they refer to lots of other recent articles or are about an other trendy subject. And as explained in "5.2.1 The Political Nature and Incentive Traps of Academia", academia is ultimately a game of fame and rank. Citing others' articles gets them to cite you, which builds your status in the body of knowledge". By "going rogue" and attempting a "long shot" with a new perspective, you'd risk becoming an academic outcast.

So what we are doing now is:

- Leveraging the creativity of the clients – all of us – to make sure the final operating system can be perfected and is modifiable to the needs of different cultures and value systems.
- Raising awareness of the perspectives and solutions provided by The Root Bug hypothesis so that politicians and researchers will have the option of taking them seriously and allocating their efforts to solving the actual problem instead of compromising over which symptoms to treat and how.

2568 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
2569 See: "3.2.3 Unionization and Strikes".

5.2.3 The Economics Discipline at Threat?

In short:

- *While academic economics likes to maintain the implicit monopoly it has on economic innovation (despite innovation never having been the principal task of academia), it has little incentive to provide effective solutions.*
- *On the contrary, it has significant incentive to maintain economic problems, as every recession and crisis is likely to increase its funding and provides useful empirical material that researchers can use to promote their arguments against the theories of competing schools.*
- *Academic economics might also be trying to appear more exact a science than it is out of an (unnecessary) "inferiority complex".*

"Economics is extremely useful as a form of employment for economists." – John Kenneth Galbraith

"We are getting a lot of natural experiments – bad times are good for generating lots of interesting data. And that's where I would go." – Paul Krugman[2570]

"A crisis is a terrible thing to waste." – Paul Romer

"Economics is going to be more important and more exciting in the next five or ten years than it's been since the 1970s, because the scale of the problems that it's got to deal with are suddenly really daunting. In order to deal with those daunting problems, lots of new ideas are going to be required from economists."

– Anatole Kaletsy (Principal Economics Commentator – Times of London)[2571]

Part of the principal agent problem of the economics discipline is a moral hazard similar to the one described in "3.1.7 Incentive Trap for Grassroots-Level Innovation". Few professorships or research positions are threatened by recessions. On the contrary, the more the economic system fails, the more funding is likely to become available for economic research projects. The years following the 2008 credit crunch have seen the emergence of new funds and grants aimed for economic research.[2572] Economics discipline breathes crises – or rather feasts on them! Many economists have openly called the 2008 collapse a very interesting source of data. Economic crises are invaluable case examples that they can use to argument their own theories and criticize those of others – to gain more fame and status in the academic hierarchy.

As mentioned in "5.2.1 The Personal Nature and Incentive Traps of Academia", in hardly any other field do we expect practical innovations to come directly from the academic world. In e.g. chemistry or IT solutions, it is the private sector that innovates. The academic sector just standardizes the languages – the concepts and models – used in a field and makes some commercially independent basic research to verify or falsify these theories. Yet the economic academia has managed to maintain the assumption that it is the (only viable) source of innovation for economic systems – and this myth runs strongly in its interests.[2573]

Just like labor market organizations keep themselves employed in negotiating over others' work contracts and maintaining the public perception that this is value-producing,[2574] the academic world keeps itself employed by fighting over the definitions of words, accusing, blaming and downplaying academics of other schools and disciplines and maintaining the perception that this process is the most efficient way to solve our problems.

2570 1:34:55->, "A Conversation on the Economy with Joe Stiglitz and Paul Krugman", panel discussion, viewed 5.5.2013, http://www.youtube.com/watch?v=xd0Uz__ebzA

2571 0:04->, "Advice to Young Economists", INET Economics, viewed 31.5.2014, https://www.youtube.com/watch?v=5QMbPWh6Ohk

2572 Institute for New Economic Thinking (INET) funded by George Soros is just one example and has already awarded more than $22 million in grants in four years. INET, like most funds, heavily favors academic institutions in its grant application processes.
– "Institute for New Economic Thinking", http://ineteconomics.org/

2573 Interestingly, e.g. Milton Friedman who seems to be for a minimal government in all other aspects, when asked whether the government should be involved in financing research, considers it "a very complicated issue" to which there is no easy answer. No one wants to let go of the "achieved benefits" that the current system gives them.
– 21:35->, 2010, "TAKE IT TO THE LIMITS: Milton Friedman on Libertarianism", Interview with Milton Friedman on Uncommon Knowledge, viewed 10.4.2013, http://www.youtube.com/watch?v=JSumJxQ5oy4

2574 See: "3.2.3 Unionization and Strikes".

Peter Attia points out the importance of getting cause and effect the right way around and points out how maintaining false assumptions might be in the interest of some interest groups and existing institutions.[2575] His case example is the causal relation between obesity and insulin resistance, which he compares to injuries and the resulting bruises.

> "Getting cause and effect right makes all the difference in the world. Getting it wrong, in the pharmaceutical industry can still do very well for its shareholders, but nothing improves for the people [suffering from the problem]. Cause and effect."
>
> "But step one is accepting the *possibility* that our current beliefs ... could be wrong and therefore must be tested."[2576]

Similarly, focusing on finding ways to spur economic growth by any means in order to treat the symptom of unemployment[2577] (and growing income differences, deteriorating human capital etc.), the economic discipline is very well managing to keep itself employed. But would it, maybe, be better for the end users of the economic system – all of us – if we had an economic system, where supply and demand met in the labor market regardless of how much aggregate demand there is,[2578] i.e. if we got the cause and effect right?

Once again, we attempt to make no direct accusations against any individual, ignite conspiracy theories or demonize academia in anyway. But it is paramount that we understand that removing economic instability and the fear of collapses might not be in the interest of academic economics. Even if it didn't threaten the funding of professors with tenure, any new (especially external) idea is a potential threat to their authority and would at best cause a lot of extra work rethinking models – but little additional funding to do so. Maintaining the status quo and protectionistically fending off any external disturbances – especially potential breakthrough innovations – is in the interests of the whole institution.

Many speculate that Henry George's ideas on land rent taxation partly failed to sustain their ground in public discussion due to a lack of academic support. But on the other hand, this dismissive attitude of academia was likely spurred by the "intolerably dogmatic and doctrinaire spirit" of George and the "single taxers" inspired by his work. (Hudson 2008, p. 11-12)

There might be another factor (in addition to the need to secure funding) making economic academia behave as if threatened. Economics is clearly not as exact a 'science' – or not as "scientific" a field – as e.g. physics or chemistry,[2579] where ceteris paribus experiments can be made and repeated in laboratory conditions.[2580] Going back to the perception of institutions as agents,[2581] there are at least two phenomena suggesting that the institution of economic academia might have a curious "inferiority complex" or self-esteem issue with this fact – making it desperately want to appear more scientific than it is.[2582] As Thomas Piketty writes in the introduction to his recent, popular book:

> "This obsession with mathematics is an easy way of acquiring the appearance of scientificity without having to answer the far more complex questions posed by the world we live in. There is one great advantage to being an academic economist in France: here, economists are not highly respected in the academic and intellectual world or by political and financial elites. Hence they must set aside their contempt for other disciplines and their absurd claim to greater scientific legitimacy, despite the fact that they know almost nothing about anything." (Piketty 2013)

Also the following quote from a paper by Angus Deaton suggests an issue of academic self-esteem:

> "Once upon a time, before we had quite the high status that we enjoy today, it was common for economists to be harassed by scientists (high status of yesterday) who wanted to know whether we had ever come up with anything that was neither trivial nor obvious. Such questions were asked in the clear expectation that the answer would be no, or would be so unsatisfactory as to lead quickly to that conclusion. When faced with such a challenge, I would always

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2575 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

2576 7:55-> & 10:56->, Attia, Peter, 2013, "Is the obesity crisis hiding a bigger problem?" TED Talk, TED MED, viewed 7.1.2013, http://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes.html

2577 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2578 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest".

2579 See: "5.2.2 How Would You Roll out a New Operating System?".

2580 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

2581 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

2582 "One believable but possibly apocryphal tale I heard as a graduate student in the '90s was that economists at a prestigious Midwestern university had actually taken to wearing white lab coats – because they supposedly were the real scientific deal, unlike their colleagues in all those soft disciplines."
– Frank, Thomas, "The problem with Thomas Piketty: 'Capital' destroys right-wing lies, but there's one solution it forgets", Salon, cited 15.5.2014, http://www.salon.com/2014/05/11/the_problem_with_thomas_piketty_capital_destroys_right_wing_lies_but_theres_one_solution_it_forgets/

talk about Franco Modigliani and his life-cycle theory of saving."[2581] (Deaton 2005, p. 1)

And so does this one from John Maynard Keynes:

"If economists could manage to get themselves thought of as humble, competent people on a level with dentists, that would be splendid." (Keynes 1932, p. 373)

The first case is that of the "Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel", established long after the actual Nobels instituted by Alfred Nobel himself. Swedish stewards of the Nobel prizes considered it "an effort by a 'non-rigorous discipline to cloak itself in the trappings of an objectivity it did not and could not possess.'" (Bishop 2003, p. 10) And e.g. Friedrich A. Hayek, a laureate of the prize himself, agreed that economics was not comparable in rigor to the other sciences. (Bishop 2003, p. 10)

A second phenomenon is the curious disappearance of the history of economic thought from economics curriculums in the early 20th century.[2584] [2585] [2586] This can be considered an interest-group political phenomenon and one of power struggle between the schools of thought (some e.g. argue that one objective was to systematically block Georgist ideas and the classical distinction between land and capital from economic research and discussion[2587]), but it could also be seen as an attempt to make the science look more "scientific" if we consider the following observation by Alan Watts:

> "Notice, too, in the academic world, that all subjects which are [non-exact, non-practical] are studied in terms of their history. When you start studying mathematics, you do not start studying the history of mathematics as the initial course. But history of philosophy, history of religions is the start-out course in these topics. Medicine: You don't start studying the history of medicine until you are in graduate school. History of science is a graduate school subject. History of psychology... Whenever you think a subject is practical, you go right into doing it rather than being historical about it."[2588]

This inferiority complex might be one additional explaining factor for the "religious" attitude in many economic schools of thought, which will be assessed further in the next chapter.[2589] However, this self-esteem issue is unnecessary. As Alan Watts says to an audience of psychologists and therapists, there is nothing wrong with a field being less exact or less scientific. But a field which cannot be a completely exact science is only doing itself harm by pretending to be.

> "You [psychologists], if you are successful, must be artists. And an artist is a person who performs certain things skillfully, but doesn't really know how he does it."[2590]

Just like a narcissist is only doing himself harm by pretending to be something he is not, academic economics is missing out on its full potential. Getting to be a researcher *and* an artist could be considered quite a privilege. As J. Michael Bishop writes:

> "Still, I find myself living in some envy of the artist. We scientists are slaves to the puzzles performed by nature and to our rules, whereas artists create their own puzzles and solve them by breaking rules." (Bishop 2003, p. 54)

And as Robert M. Pirsig puts it:

> "We have artists with no scientific knowledge and scientists with no artistic knowledge and both with no spiritual sense of gravity at all, and the result is not just bad, it is ghastly." (Pirsig 2006)

2581 For how this very life-cycle theory exemplifies rash conclusions of causality typical for economics, see: footnote 697.

2584 "There were big debates, and students would study politics, the history of economic thought.' And now? 'Nothing. No debates, no politics in history of economic thought and the courses are nearly all maths.'"
Chakrabortty, Aditya, "Mainstream economics is in denial: the world has changed", The Guardian, 28th Oct 2013, cited 12.5.2014, http://www.theguardian.com/commentisfree/2013/oct/28/mainstream-economics-denial-world-changed

2585 "Multiple-choice and maths questions dominate the first two years of economics degrees, which Earle said meant most students stayed away from modules that required reading and essay-writing, such as history of economic thought."
Inman, Phillip, "Economics students aim to tear up free-market syllabus", The Guardian, 24th Oct 2014, http://www.theguardian.com/business/2013/oct/24/students-post-crash-economics

2586 "It has been widely recognized that mainstream economists do not consider methodology, including as philosophy or the history of ideas, to be an important area of discussion." (AHE 2013, p. 4)

2587 This is for example Michael Hudson's view: "The Chicago school basically had a means of promoting its economic theories." ... "In America they gained control of the main refereed academic journals..." ... "[W]hen you're a graduate and you get your PHD and want to go into teaching, you have to get promoted by publishing in a refereed journal. But the referees are all Chicago boys or Harvard boys or the neoliberals and they are totalitarians." ... "So in the United States they've dropped the history of economic thought from the academic curriculum. They've even dropped economic history from curriculum! So you're not going to get, any longer, what you got, at least when I was in school 50 years ago: the history of rent theory, of price and value theory – the whole edifice of analyzing the distinction between earned and unearned income, economic rent and profit ..."
Hudson, Michael, "Monopoly's Poster Child", cited 12.5.2014, http://michael-hudson.com/2014/02/monopolys-poster-children/

2588 13:11->, Watts, Alan, "Learning the Human Game", viewed 12.5.2014, https://www.youtube.com/watch?v=Wz_wiaFe5ug

2589 See: "5.2.4 The Religious Nature of Economics and Politics".

2590 7:38->, Watts, Alan, "Learning the Human Game", viewed 12.5.2014, https://www.youtube.com/watch?v=Wz_wiaFe5ug

Karl Popper, the father of the idea of scientificness as "falsifiability", also clarifies that falsifiability is not the only measure of value or meaningfulness for models and ideas:

> "At the same time I realized that such myths may be developed, and become testable; that historically speaking all – or very nearly all – scientific theories originate from myths, and that a myth may contain important anticipations of scientific theories." ... "Thus the problem which I tried to solve by proposing the criterion of falsifiability was neither a problem of meaningfulness or significance, nor a problem of truth or acceptability." (Popper 1963)

> "Change is hard because people overestimate the value of what they have – and underestimate the value of what they may gain by giving that up." – James Belasco and Ralph Stayer, Flight of the Buffalo (1994)

> "Over 200 years ago we had the Great French Revolutions and one day there were three gentlemen about to lose their head to the guillotine. There was a priest, a lawyer and a theoretical physicist (just like me) about to have their head cut off. Well they put the priest's head on the chopping block and they asked him: 'Do you have any last words before we cut your priestly head off?' And priest said: 'Yes, yes!' He said, 'God, God from above, he shall certainly set me free.' Well all eyes were on the blade. They raised the blade. The blade came down, 'swish', and it stopped right before the neck of the priest. Well, the mob had never seen this before. They were shocked. They said: 'God has spoken! Let the priest go.'
>
> Now let's see about the lawyer. Yes, the lawyer. Now the bloodlust was starting: 'Yes, the lawyer.' Well, they put the lawyer's head on the block and asked him: 'Do you have any last words before we cut your lawyerly head off?' And he said: 'Yes!' He said: 'Maybe the spirit of justice, yes, the spirit of justice and mercy, she shall set me free.' Well, they raised the blade. The blade came down, 'swish', and it stopped right before the neck of the lawyer. Well this time the crowd went crazy. They said: 'Let there be a national holiday. Today, God has spoken. Justice, mercy have spoken today.'
>
> And now let's see about that theoretical physicist. Well they put the physicist's head on the chopping block and they asked him: 'Do you have any last words before we cut your head off?' And he said. 'Yeah, yeah, I got some last words.' And he said: 'I don't know too much about God and I know even less about the law, but I do know one thing. If you look up you'll see that the rope is stuck on the pulley.' And then he said: 'If you remove the rope, the blade should come down real good.' Big mistake – biiiig mistake. Well, the rope came down, the blade came down and the poor physicist's head came down and the moral of the story is that sometimes we physicists have to know when to keep our mouths shut!" – A joke told by Dr. Michio Kaku[2591]

2591 9:15->, Kaku, Michio, 2009, "The World in 2030", viewed 9.2.2013, http://www.youtube.com/watch?v=219YybX66MY

5.2.4 The Religious Nature of Economics and Politics

In short:

- *In addition to the personal nature characterizing academia in general, the conservativeness and protectionism of economics – "the dismal science" – is reinforced by its close link to politics, which is more a realm of conviction than an area of innovation.*
- *Economic schools are hence even less willing to cooperate with each other than scientists in other fields and even more prone to avoid, ignore or dismiss evidence contradicting their own theories.*
- *As economic research findings are major political weapons, political entities are major funders of economic research.*

"This is why politics is so tribal. Politics is partly profane: It's partly about self-interest. But politics is also about sacredness: It's about joining with others to pursue moral ideas. It's about the eternal struggle between good and evil and we all believe we're on the good team." – Jonathan Haidt[2592]

"The modern world is filled with men who hold dogmas so strongly that they do not even know they are dogmas." – G. K. Chesterton

"Politics is economics by other means." – Michael Ruppert

"Faced with the choice between changing one's mind and proving that there is no need to do so, almost everyone gets busy on the proof." – John Kenneth Galbraith

"As for fear, it takes either a very courageous or very reckless economist to say publicly that a doctrine that many, perhaps most, of the world's opinion leaders have embraced is flatly wrong." ... "Unfortunately, those economists who have hoped to appropriate the rhetoric of competitiveness for good economic policies have instead had their own credibility appropriated on behalf of bad ideas. And somebody has to point out when the emperor's intellectual wardrobe isn't all he thinks it is." – Paul Krugman (1993, p. 44)

Federal Reserve chairman Ben Bernanke makes the important distinction between "science" and "engineering" and how this should apply to economics as well:

> "In particular, it seems to me that current critiques of economics sometimes conflate three overlapping yet separate enterprises, which, for the purposes of my remarks today, I will call economic science, economic engineering, and economic management. Economic science concerns itself primarily with theoretical and empirical generalizations about the behavior of individuals, institutions, markets, and national economies. Most academic research falls in this category. Economic engineering is about the design and analysis of frameworks for achieving specific economic objectives." ... "Economic management involves the operation of economic frameworks in real time..."
>
> "With that taxonomy in hand, I would argue that the recent financial crisis was more a failure of economic engineering and economic management than of what I have called economic science." ... "As you may have already guessed, my terminology is intended to invoke a loose analogy with science and engineering."

But, as also Bernanke acknowledges, this does not quite seem to apply in practice.

> "I don't want to push this analogy too far. Economics as a discipline differs in important ways from science and engineering; the latter, dealing as they do with inanimate objects rather than willful human beings, can often be far more precise in their predictions. Also, the distinction between economic science and economic engineering can be less sharp than my analogy may suggest, as much economic research has direct policy implications."[2593]

2592 16:01->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

2593 Bernanke, Ben, "Implications of the Financial Crisis for Economics", Board of Governors of the Federal Reserve System, speech, 24th Sep 2010, cited 17.4.2014, http://www.federalreserve.gov/newsevents/speech/bernanke20100924a.htm

Somehow we still expect academic *scientists* to make *innovations*. And not only that, but we don't consider ideas coming from outside academia to have much credibility or to even be worth a consideration.

If academic computer science does not have a monopoly on algorithm or internet service innovations, and the chemistry departments of universities do not have a monopoly on developing new chemicals, drugs or production processes for these, how are the economic academia and conservative research journals able to maintain their implicit monopoly on societal innovations and new "economic game designs"? Bernanke's "impreciseness argument" does not quite suffice for a justification.

One major factor that makes economics – "the dismal science" as economists themselves call it – "different" is its close link to politics, which has its interest group cliques and taboos. When newspapers, forums, schools or television programs call themselves "impartial", it usually means that they avoid taking any stance on religious or political issues – and to be safe, they often avoid these subjects altogether. One thing religious and political discussions have in common is the "right to be offended". Religious and political opinions – both often referred to as "convictions", for good reason – are something sacred that it is very inappropriate to question, regardless of how constructive, understanding or "customer-oriented" the attempted dialogue would be.

Jonathan Haidt calls politics and religion "two of the most important, vexing and devisive topics in human life" and writes (in a book aptly subtitled: "Why good people are divided by politics and religion"):

> "Politics and religion are both expressions of our underlying moral psychology, and an understanding of that psychology can help to bring people together." (Haidt 2013, p. xviii)

Economics is not rocket science or quantum physics. But, unfortunately, economics is theology. Economics is to politics what theology is to religion. Because economic research can practically be considered to be a weapon in political debate,[2594] it has become a very dogmatized science in itself, grouped into strongly disagreeing economic schools with no desire to even attempt to understand each other – even to conduct thought experiments with each others' hypotheses.

Additionally, the most respected economic research journals are among the most conservative in their publishing criteria and slowest in publishing lead times of all academic journals, making it difficult to get attention for new perspectives. Asking economists to work across different schools to come up with new perspectives to economics is like asking the Catholic Church to rethink the Seven Deadly Sins with the Orthodox Church. Suggesting cross-disciplinary projects with other scientific fields is like proposing a common Sunday service with the Hare Krishna or Freudian psychoanalysts: Some of the more open-minded pastors might do it out of diplomatic politeness – as a sign of peace – but would make sure that no "stains" from this encounter are left in their sacred practices and dogmas.

This sacredness of economic theory and politics is related to the general challenge with democracy – the interest-group-oriented representative compromise machine by which most Western countries are currently governed.[2595] Everyone has the right and responsibility to affect public decision making with her vote. Often, this is seen as one's responsibility towards protecting the interests of one's respective interest groups. Asking someone to question her economic perspective is almost like asking her to abandon her values or stop protecting her loved ones – which is tantamount to suggesting disloyalty or even treachery.

Another striking feature of this dogmatization is the economic academia's fixation to their frameworks and vocabulary. If you haven't read exactly the same articles or passed the same courses as an economist has, or if you happen to use concepts in slightly different meanings than he prefers, he may easily use this as an excuse not to discuss matters with you at all. One could draw the analogy to the Medieval Catholic church's monopoly in interpreting the Bible, enforced by the fact that the Bible was only available in Latin, a language only taught to members of this clerical elite. Cross-disciplinary cooperation, and especially attempting to understand other scientists' frameworks, would allow combining research findings of different fields, but, even more importantly, it would allow seeing one's own field and findings from new perspectives. Economists would have a lot to learn about the potential of "radical openness".[2596] (Tapscott & Williams 2013)

As discussed in "5.2.1 The Personal Nature and Incentive Traps of Academia", the academic world everywhere is largely focused on fighting over language: Each researcher, research group and school of thought is trying to increase the dominance of the frameworks of their school and leaving their own signature in the prevalent strands of literature. But economics still differs notably from e.g. computer science in terms of this protectionist

2594 See e.g. the Reinhart-Rogoff case in "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

2595 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

2596 Silva, Jason, 2012, "RADICAL OPENNESS – for TEDGlobal 2012", video, viewed 12.7.2013, http://vimeo.com/38260970#

attitude towards its authority. A self-taught programmer who has done lots of his own projects and open source work is much more highly valued on the labor market than one with good grades from a degree. This is not the case in positions requiring economic qualifications. Also academics of computer sciences are far more interested in discussing the possibilities of and latest advances in different technologies with developers who have the latest experience "from the field" (the private sector), than economists are in discussing developments in e.g. business strategy with managers and applying this insight to their models.

Not even something as abstract as quantum physics or psychoanalysis – despite their divergence into schools of their own and their alleged pseudoscientific nature – see such intolerance of others' views and frameworks. Only other religiously and politically charged fields of sciences, such as philosophy and sociology, are characterized by similar protectionism.

Of course, as Thomas Kuhn noted, research guided by a strong paradigm can also be very constructive. However, the protectionist devotion to their own frameworks within economic schools and the reluctance to establish cross-disciplinary interfaces outside economics (could be called "scientific segregation/separatism" or "academic apartheid") can surely be argued to have surpassed the productive level of dedication.

When wanting to talk with an academic about their area of expertise, in what other field would you get replies on the lines of: "We are *so far from each other* that I won't be of any use to you" or "You don't want to hear my opinion"? You would expect scientists that are enthusiastic about their field to be thrilled for an opportunity to discuss their views with someone from a slightly different academic background or culture and try to explain their theories in another person's language. Initially, hearing these kinds of replies makes one feel like one is in a blockbuster conspiracy theory movie – until one realizes that it's just a matter of how the institution (and it's self-preservation instinct) encourages the individuals to react.[2597]

Ironically, the field studying incentive traps is ridden with them. As the Finnish proverb says: "The cobbler's children have no shoes". The economic schools most strongly opposed to protectionism are more protectionist of their theories than France of its wines. Not even the most free-market-oriented academics are suggesting more private sector innovation and competition in economic solutions. Well, few of us pay attention to the log in our own eye – and when we do notice it, it is a natural reaction to focus on finding enough specks to point at in others' in order to draw attention away from it.[2598]

Austrian economics and its "praxeological method" are in a league of their own in terms of fundamentalism. Wonder what Popper would've said about the following quotes from Murray N. Rothbard.

> "In the first place, it should be emphasized that economic theory does not 'assume' full employment. Economics, in fact, 'assumes' nothing. The whole discussion of alleged 'assumptions' reflects the bias of the epistemology of physics, where 'assumptions' are made without originally knowing their validity and are eventually tested to see whether or not their consequents are correct. The economist does not 'assume'; he knows. He concludes on the basis of logical deduction from self-evident axioms, i.e., axioms that are either logically or empirically incontrovertible." (Rothbard 1962, p. 582)

> "Mises is the first to work out economics on a firm foundation on the principle of individual action... This is the economic bible for the civilized man." (Rothbard on the back page of Mises 1963)

More on how praxeology is a great example of how men are slaves of their languages (and why it should be a prime subject of study for psycholinguists) in "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives" and "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

Hopefully we've managed to make it clear that we cannot rely on the economic academia to produce breakthrough societal innovations. And this is not an accusation against individual academics, academic institutions or academia as a whole. It has *never been* its mission to produce innovations, but rather to gather and verify the findings and discoveries in a field and to consolidate the language used in these fields. This function is very useful as it prevents information from being lost permanently and gives a common language that can be used in the private sector as well. The main point we're trying to make here is that there is no sense in expecting any breakthrough innovations from academic economics, as it has no incentives to make them. As Noah Smith says:

> "Should we trust economists?" ... "They're fractious, frequently wrong, and have lost much of the public's faith. But their insights are still valuable – as long as you don't expect them to predict the future." ... "Imagine you are the Royal Physician in England

2597 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

2598 "Why do you see the speck that is in your brother's eye, but do not notice the log that is in your own eye?" The Bible, Matthew 7:3, English Standard version.

> some time during the 14th century. The prince is sick, and you've been summoned to help. You call in two experts for advice. The first says: 'Use leeches to suck out the evil humors.' The second says 'No, you must bleed him to get the evil humors out.' They start to argue, insulting each other in nasty epistles. 'Leech guy is secretly working for the French!' alleges Bleeding Guy. 'Bleeding Guy just wants the prince to die because the prince wanted higher taxes on the nobles!' Leech Guy fires back." ...
>
> "Just as it doesn't have their caliber of data, macroeconomics also lacks the kind of scientific culture enjoyed by biology and chemistry. In the hard sciences, models are built to explain data; that's their only purpose. But in econ, models are often used simply as storytelling devices to explain an idea about how the world might work." ...
>
> "What all this means is that when an economist tells you something that is based on a theory or a model, you should be very, very skeptical. And the more complicated the theory or model is, the more you should be suspicious." ...
>
> "No matter how much we might wish they were, economists are not go-to experts who know just how the world works or how to fine tune it. They are not car mechanics. And if they act like they are car mechanics, you should instantly be suspicious. But they do have a lot of interesting things to say. They might help you clarify or re-evaluate your own beliefs about how the economy functions. They can also help you spot the flaws in each other's arguments."[2599]

Most of us have heard the fairy tale version of the "The Emperor's new clothes", where at the end a child manages to get everyone to realize that the emperor actually has none – simply by stating this observation. The more realistic version ends with the line: "Heheh, such absurd things that pop into your head sonny. You should learn not to make such ignorant comments before you grow up and get a degree in textiles. Surely 1000 fashion critics know better."

Fortunately, the last decades have seen a number of think tanks and other institutions emerging to take a more out-of-the-box and practical perspective to things. Unfortunately, many of these are funded by an interest group or are otherwise strongly guided by an existing ideology or political orientation – subjecting them to a strong confirmation bias.[2600]

> "The right has been extremely effective and has funded think tanks that have made the case very powerfully for what's good about capitalism."[2601]

Moving towards a more constructive and daringly innovative academic culture in economics is closely linked to the challenge of moving from an interest-group-based compromise democracy into a more "game-design-oriented" one,[2602] where the objective is not to get maximal benefits to one group on the expense of others, but to develop a system that most flexibly and sustainably meets the needs (or, rather, facilitates the ambitions) of all its participants and encourages innovation in providing value for others.

> "After all, we [academic economists] are the priests of an esoteric religion, only we understand the academic scriptures and can appreciate the truths therein revealed." – Luigi Zingales (2015, p. 2)

> "[I]n the field of economic and political philosophy there are not many who are influenced by new theories after they are twenty-five or thirty years of age, so that the ideas which civil servants and politicians and even agitators apply to current events are not likely to be the newest." – John Maynard Keynes, The General Theory of Employment, Interest and Money (1936, p. 241)

> "The displacement of the idea that facts and evidence matter by the idea that everything boils down to subjective interests and perspectives is – second only to American political campaigns – the most prominent and pernicious manifestation of anti-intellectualism in our time." – Larry Laudan, Science and Relativism: Some Key Controversies in the Philosophy of Science

> **"While every group has certain economic interests identical with those of all groups, every group has also, as we shall see, interests antagonistic to those of all other groups. While certain public policies would in the long run**

2599 Smith, Noah, "Should We Trust Economists?" 4th Jun 2013, cited 19.6.2013, http://www.theatlantic.com/business/archive/2013/06/should-we-trust-economists/276497/

2600 See: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

2601 23:40->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

2602 See: "2.1.6 Conclusions – How about a Game Design Approach?" and "6.3.2 Appendix 3.2: The Challenges with Democracy".

benefit everybody, other policies would benefit one group only at the expense of all other groups. The group that would benefit by such policies, having such a direct interest in them, will argue for them plausibly and persistently. It will hire the best buyable minds to devote their whole time to presenting its case. And it will finally either convince the general public that its case is sound, or so befuddle it that clear thinking on the subject becomes next to impossible." – Henry Hazlitt (1946, p. 3)

"A man with a conviction is a hard man to change. Tell him you disagree and he turns away. Show him facts or figures and he questions your sources. Appeal to logic and he fails to see your point." – Leon Festinger

"At one of my recent Harvard seminars, a graduate student proposed a clever scheme to do exactly that [make holding money less attractive]. (I will let the student remain anonymous. In case he ever wants to pursue a career as a central banker, having his name associated with this idea probably won't help.)" – N. Gregory Mankiw[2603]

"There is no use in arguing with people who are driven by 'an almost religious fervor' and believe that their master 'had the Revelation.'" ... "No one should expect that any logical argument or any experience could ever shake the almost religious fervor of those who believe in salvation through spending and credit expansion." – Ludwig von Mises, Planning for Freedom: And Twelve Other Essays and Addresses (1952, p. 63)

"All this is not to say that economists should not deliver themselves on ethical questions, any more than an argument that botany is not aesthetics is to say that botanists should not have views of their own on the lay-out of gardens." ... "I quite agree with Mr. Fraser that an economist who is only an economist and who does not happen to be a genius at his subject – and how unwise it is for any of us to assume that we are that – is a pretty poor fish. I agree, too, that by itself Economics affords no solution to any of the important problems of life. I agree that for this reason an education which consists of Economics alone is a very imperfect education." – Lionel Robbins (1945, p. viii-ix)

"Meanwhile, the poor Babel fish, by effectively removing all barriers to communication between different races and cultures, has caused more and bloodier wars than anything else in the history of creation." – Douglas Adams, The Hitchhiker's Guide to the Galaxy

2603 Mankiw, N. Gregory, "It May Be Time for the Fed to Go Negative", The New York Times – Economic View, 19th Apr 2009, cited 22.12.2013, http://www.nytimes.com/2009/04/19/business/economy/19view.html?_r=0

5.3 THE NEXT STEPS

"Whoever, laying aside prejudice and self-interest, will honestly and carefully make up his own mind as to the causes and the cure of the social evils that are so apparent, does, in that, the most important thing in his power toward their removal. This primary obligation devolves upon us individually, as citizens and as men. Whatever else we may be able to do, this must come first. For 'if the blind lead the blind, they both shall fall into the ditch.'

Social reform is not to be secured by noise and shouting; by complaints and denunciation; by the formation of parties, or the making of revolutions; but by the awakening of thought and the progress of ideas. Until there be correct thought, there cannot be right action; and when there is correct thought, right action will follow. Power is always in the hands of the masses of men. What oppresses the masses is their own ignorance, their own short-sighted selfishness." – Henry George, Social Problems (1883, p. 326-327)

Irving Fisher: "I share all your worries and concerns as expressed in ***The Road to Serfdom*** and I'm going to go into politics and put it all right."
Friedrich A. Hayek: "No you're not! Society's course will be changed only by a change in ideas. First you must reach the intellectuals, the teachers and writers, with reasoned argument. It will be their influence on society which will prevail, and the politicians will follow." (Hayek 1999, p. 20)

"It's [LVT] talked about as if it's a panacea, this zenith, you know, sort of solves everything: 'I don't believe it – nothing does', such thing, 'dah-dah-dah-dah-dah'. And I also think that's partly the problem: There's a lot of people, they fear it, 'cause they just can't believe that one single thing could do so much – could have such a wide impact on all of these social, economic issues. And all these sort of negative ramifications have become attached to it, before it's even had a chance to be looked at and explored and analyzed – and taken to the next stage where it becomes part of the public debate, where people can really talk about this. Yes, fine disagree with it, but let's engage more with the public. Let's make it part of the popular forum – not just a sort of marginal fringe issue." – Carlo Nero, Film Director /Creator, Dissent Projects Ltd[2604]

"The word technology means 'a better way of doing things.' This is easy to say, but extremely difficult to do. Making a better way of storing information, a better currency, or a better way of making friends means improving on thousands of years of human experience and is therefore extraordinarily difficult." ... "The trouble with innovation is that truly innovative ideas often look like bad ideas at the time." – Ben Horowitz[2605]

2604 26:46->, "The Taxing Question of Land", documentary, viewed 20.1.2014, http://www.youtube.com/watch?v=1pYSsME_h7E
2605 Horowitz, Ben, "Can-Do vs. Can't-Do Culture", Recode, 1st Jan 2014, cited 17.1.2014, http://recode.net/2014/01/01/can-do-vs-cant-do-culture/

5.3.1 Suggested Subjects for Future Research

In short:

- *The Root Bug **hypothesis requires a lot** of testing and **research to falsify or find** support for **its claims in order to allow** developing it **further.***
- *There is **a lot of room for interdisciplinary** advances **in research in general – especially** building **interfaces between fields.***

"In academia there is no funding for research on growth dependence and choosing this critically important topic may even put your career at risk. There's a frightening collective denial in macroeconomics and politics, which hurts people and the planet." ... "With major projects to explore the many complexities of non-growing economies and a recognition of efforts, we can make it cool to work on these issues. The only thing that can prevent progress is a failure to admit that looking beyond the current paradigm can be useful. This attitude must be challenged." – Miklós Antal[2606]

"If I was talking to a young rising star in economics, I would give them one piece of advice and one only: 'You only have so many minutes on Earth. Choose important problems – because you have to give your life meaning. And if you let the siren songs of the profession dictate for you what your agenda is, you'll end up feeling meaningless and hollow, and you won't be happy with the life you lived.'" – Rob Johnson (Executive Director Institute for New Economic Thinking)[2607]

"Hudson (2008) suggested that Henry George's decision to boycott academia in favour of a journalistic/promotional approach impeded the political take-up of the ideas, because academic perceptions and statistical analyses inform policy debates. Finally, by setting himself apart from academia (Hudson, 2008), and by his use of extreme terminology (Andelson, 2001), Henry George's individualism actually impeded his reform effort (Hudson, 2008)." – Jane McNab & Jacqueline Tuck, How the reputation of Georgists turned minds against the idea of a land rent tax (2013, p. 4)

> "How much better would we be if we treated the cause ... rather than the effect? Getting cause and effect right makes all the difference in the world." ... "So what I'm suggesting is maybe we have the cause and effect wrong..."[2608]

In the above quote, Peter Attia was talking about the causality between obesity and insulin resistance. Similarly, this book is questioning the assumed causalities in our economic theories and especially our objects of "treatment", our economic policies. E.g. the causalities between:

- economic growth and unemployment (labor market mismatches)[2609]
- the market interest rate, the quantity of money and the price level[2610]
- labor market flexibility and economic security[2611]
- people's happiness and the state of things (e.g. "utility")[2612]
- minimum wages, other restrictions, social support, the income share of capital and income differences[2613]
- Etc.

2606 11:58-> & 13:17->, Antal, Miklós, 2014, "Plan B – is there an alternative to economic growth?" TEDx Talk, TEDx Danubia, viewed 27.6.2014, https://www.youtube.com/watch?v=J9_Xc9wxByM

2607 3:57->, "Advice to Young Economists", INET Economics, viewed 31.5.2014, https://www.youtube.com/watch?v=5QMbPWh6Ohk

2608 7:46->, Attia, Peter, 2013, "Is the obesity crisis hiding a bigger problem?" TED Talk, TED MED, viewed 7.1.2013, http://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes.html

2609 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest" and "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2610 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply is Endogenous" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money".

2611 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

2612 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness" and "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

2613 See: "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)", 3.2.2 Unfair Income Differences and Limits to Social Mobility" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

And much of the same as with medical theories and treatments applies:

> "But step one is accepting the *possibility* that our current beliefs ... could be wrong and therefore must be tested." ...
>
> "I've decided that what I can't and won't do anymore is pretend I have the answers when I don't. I've been humbled enough by all I don't know." ...
>
> "But this team of multidisciplinary, highly skeptical and exceedingly talented researchers do agree on two things: First, this problem is just simply too important to continue ignoring 'cause we think we know the answer. And two, if we're willing to be wrong, if we're willing to challenge the conventional wisdom with the best experiments science can offer, we can solve this problem. I know it's tempting to want an answer right now. Some form of action or policy. Some dietary prescription: 'eat this, not that.' But if we want to get it right, we're gonna have to do much more rigorous science before we can write that prescription." ... "I dream of a day when patients can shed their excess pounds and cure themselves of insulin resistance because us medical professionals, we've shed our excess mental baggage and cured ourselves of new idea resistance sufficiently to go back to our initial ideals: open minds, the courage to throw out yesterdays ideas when they don't appear to be working, and the understanding that scientific truth isn't final, but constantly evolving."[2614]

This book may, at times (or all the time), sound like the author thinks he has all the answers. And he has to apologize for his bad habit of "asking by stating" (suggesting). This book is first and foremost one trying to ask the relevant questions - and, while at it, suggest *some initial, possible* answers. But this does not make them final answers. It is a discussion opening - not a manifesto. Further research on these questions and suggestions is needed. Even if the Root Bug at some point would be solved, this book is likely to never be "ready". Future version will hopefully suggest even better ideas for societal systems and move their focus to solving other challenges.

In macroeconomics, laboratory research is very difficult.[2615] Our problems are global, interconnected and require new perspectives. Especially, more cross-disciplinary cooperation in research is needed. Below are just a few possible, interesting subjects of research for Master's or PhD students looking for an interesting thesis or dissertation subject and other researchers who are interested in making a big impact:

General Economic Models:

- A macroeconomic model, where
  - (instead of talking about the confusing "supply and demand for money"[2616]) we have the balance of the "demand for being in debt" and the "demand for holding credit"
  - we model the effect of interest rates on these (through their costs and yields)
  - we draw the connection between these and the desire to save (supply of capital) and desire to make real investments (demand for capital) and to the balance of the aggregate supply and demand for labor.[2617]
- ...or otherwise making current models take into account the effect interest rates might have on individuals' willingness to save monetary assets, i.e. affecting the amount they work and spend (disgarding the assumption that lower rates would always increase the money supply).
- Using game-theoretical models and settings (such as multiplayer Stag Hunts) for analyzing the risks of hyperinflation[2618] (with different levels of government debt and different amounts of liquid, zero-maturity credit).
- Adding the effects of deontological and virtue ethics (e.g. acting according to rules or avoiding negative associations) to the behavior of agents in economic models and simulating their effects on the economy (as opposed to pure outcome orientation).

The Labor Market

- The feedback mechanisms (of e.g. cyclical chain reactions[2619]) with different allocations of labor.
- Further development of the theory of the negative externalities of overcentralizing work on fewer people.[2620]

2614 10:56->, 11:18->, 12:01-> & 13:55->, Attia, Peter, 2013, "Is the obesity crisis hiding a bigger problem?" TED Talk, TED MED, viewed 7.1.2013, http://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes.html

2615 See: "6.1.4 Appendix 1.4: The Conundrum of Causality - The Culprit Depends on Comparison".

2616 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic - The Money Supply is Endogenous".

2617 See: "1.3.3 The Circular Flow of Income - Consumption, Saving and Investing" and "1.3.5 Inflation Is the Rise in the (Nominal) Price Level - And Has Little to Do with the Quantity of Money".

2618 See: "2.2.6 Post-Keynesian Solutions - Ignore Hyperinflation Risks and Guarantee Jobs".

2619 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2620 See: "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

– How taxation and other incentives can influence companies' resourcing decisions – especially what would be needed to make sharing work profitable (in the mid-term).[2621]

Public Finance

– More accurate estimates of the potential yields of land taxation, inflation and deposit taxation, auctioning natural resources etc.

– Robustness of public revenues to economic trends and shocks with the suggested taxation systems.[2622]

Financial Sector

– Could a fee on the deposit insurance and requiring banks' bond risk premiums to remain below this fee guarantee sufficient "buffer credit" to protect deposits from bankruptcy risks?

– How much would a government gain additional revenue due to such a tax considering possible losses in bankruptcy risks and lowered yields on government bonds?

– Possible ways to circumvent such a fee, incentive traps, moral hazards and other pitfalls.[2623]

– Using the inverse relationship between the market interest rate and a company's share price (or a resource's market value) as a "monopoly indicator" - how inefficiently competition works in the industry or resource market in question. Assessing the reliability of such an indicator with past data.[2624]

Work psychology and leadership

– How individual exceptions in the amount one works affect work place dynamics and how organizational culture can facilitate individual flexibility.

– Managerial challenges in (and attitudes towards) allocating work more flexibly.[2625]

Language and discourse research

– Conceptual metaphors in economics and assumptions included in economic concepts.

– Connotations (emotional charges) of economic terms among different economic schools.

– How much of academic economic (and political) disputes are lingual (results on incompatible terminology), how much positive (assuming different behavior of individuals or systems) and how much normative (disagreements about desirable outcomes and objectives).

– The development of the discourse of "work sharing" and the conceptions and assumptions regarding it.[2626]

Environmental economics

– How high would taxes on landfills and new mines have to be to make recycling and landfill mining a profitable business without additional incentives.

– The optimal transition period for taxing fossil fuels out of use (e.g. credibility of commitment to the rising taxation and eventual ban, ensuring that new fossil investments are halted immediately, but that excessive losses are avoided).

2621 See: "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant" and "4.1.2 Making Sharing Work Profitable".

2622 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources" and "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".

2623 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2624 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends On Future Consumption and Capital Intensity (and Monopolies)" and "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

2625 See: "4.1.6.2 Making Sharing Work Socially Acceptable".

2626 See: "5.1 Why We Don't See the Problems for What They Are" and "2.3.3 The Paralyzing Assumption: 'Work Sharing = Work Time Restrictions'".

5.3.2 Subjects Open for Debate in Versions of a Root-Debugged Societal Model for Different Political Ideologies

In short:

- *The Root Bug hypothesis does not provide a final, perfectly detailed, one-size-fits-all economic and legal system nor eliminate all possible subjects of political conflict – despite a moderately exhaustive prototype for a taxation model.*

- *Advocates of different normative premises can fine-tune the presented prototype to fit their political objectives or come up with their own solutions to the Root Bug (the supply and demand mismatch of earning opportunities) and eliminating the harmful effects of private monopolies.*

> "A consideration of the effects of the change proposed then shows that it would enormously increase production; would secure justice in distribution; would benefit all classes; and would make possible an advance to a higher and nobler civilization." – Henry George, Progress and Poverty (1912, p. 12)

Some of the sincere objectives of this book have been to:

- to clarify some prevalent misunderstandings and disagreements on economic concepts, theories and phenomena,[2627]
- to ask the relevant questions in terms of some major economic, social and environmental challenges,[2628]
- to put these challenges into context with each other,
- to shift attention from treating symptoms to solving problems (especially questioning the job creation paradigm[2629]),
- to suggest moving from interest-group-oriented compromise politics towards a game-design-orientation to societal issues, attempting to maximize positive freedom (mobility and people's choice of their roles in the society) to prevent extortion,[2630] and
- to provide some material (perspectives, thought exercises, speculation, initial suggestions etc.) for opening such constructive discussion.

However, as such shifts occurring within years in our change-resistant and populist political world is quite a utopian dream, we need to point out that fixing the Root Bug does not completely remove the possibility of robbing others with distributive politics.[2631] And even within the normative suggestions presented here, there is a lot room for dispute over how exactly some incentives are to be implemented.

Some focal subjects for debate that lefties and righties will have time to sharpen their teeth and nails on might include:

- How much exactly should education be subsidized? Are only tuition fees subsidized or is are living expenses paid as well? Are tuition fee subsidies limited to some number of degrees (as long as the degree paradigm persists) or a fixed sum of money?[2632]
- How much should healthcare be subsidized? Do we need some kind of compulsory health insurance or can we trust people to take care of their own health insurances and is it humane to let someone die if he has gambled with an insufficient insurance?
- How much economic freedom can we leave for social support? Only a hundred bucks or so in addition to housing, food and internet, or should we cut some more "slack" – a partial basic income? Especially, how fast can we increase this slack when public revenues from monopolies increase with rising labor productivity?[2633]
- What should the profit targets and other management incentives for different government monopoly industries be? E.g. a flat 20 % (of revenue) earnings target for all would be a simple solution, but if we really hunger some compromise political tug-of-war, this provides a lucrative subject!

2627 See: Volume 1 "A Brief Introduction to Economics"
2628 See: Volume 2 "Comparing Objectives and Means – Different Economic Schools and The Root Bug Hypothesis".
2629 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".
2630 See: "2.1.6 Conclusions – How about a Game Design Approach?", "6.3.2 Appendix 3.2: The Challenges with Democracy" and "3.2.2 Unfair Income Differences and Limits to Social Mobility" and "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".
2631 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".
2632 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".
2633 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

Would a "Tobin tax" on financial transactions make the financial market significantly more inefficient and less liquid? Could it reduce total costs of the financial sector by reducing "unnecessary" trading? And could such a "tax" be better implemented by taking the companies providing central clearing services (which tend to have quite a monopoly) into public ownership and simply charging more for the transactions?

What level of intellectual property rights (IPR) protection should be allowed? What does "fair use" involve? How long can patents and copyrights last, in entertainment, in non-fiction, in medicines, in electronics, in process innovations etc.?[2634]

What exactly is the optimal land value tax rate? 6% or 15%.[2635]

Then of course there are less economic subjects of debate with much more challenging ethical issues like abortion, euthanasia, animal rights, one's responsibility to die (if aging and death would, hypothetically, be defeated), parents' rights regarding their children etc.

And then there's the penal system, which also requires serious reform. Justice 2.0 is on the list right after Education 2.0 and Governance 2.0.[2636]

2634 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".
2635 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding" and "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?".
2636 See: "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources".

5.3.3 Join the Discussion and Inspire Others in Your 'Language'

In short:

- ***You surely have your ideas, concerns and critique to share as well as possibly a number of enlightening metaphors and your personal artistic language that you can use to try to increase understanding of economics and different sides of the political debate.***
- ***You can share them at www.rootbug.org.***

"There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things." – Niccolo Machiavelli, The Prince (1532)

"Optimism is a strategy for making a better future. Because unless you believe that the future can be better you are unlikely to step up and take responsibility for making it so. If you assume there is no hope, you guarantee there will be no hope. If you assume there is an instinct for freedom, there are opportunities to change things, there's a chance you may contribute to making a better world. The choice is yours." – Noam Chomsky

"The work of an intellectual is not to mould the political will of others; it is, through the analyses that he does in his own field, to re-examine evidence and assumptions, to shake up habitual ways of working and thinking, to dissipate conventional familiarities, to re-evaluate rules and institutions and to participate in the formation of a political will (where he has his role as citizen to play)." – Michel Foucault

Fortunately, we don't have to keep on banging our heads against the same walls as we have for the past 100 years or just attempting to secure our own positions in a collapsing world. The Root Bug is solvable. A growth-independent, fair and antifragile market economy that adapts to people's versatile needs is possible.

Join the discussion at www.rootbug.org and help by e.g. falsifying the current solution suggestions and submitting new ideas. These will be helpful in developing the next, yet clearer version of the Root Bug hypothesis and Market Economy 2.X. Together, we can get from "Fixing the Root Bug" to finally "Solving the Root Bug" for good (name reserved for future version of this book).

You can also explain basic economics and the Root Bug hypothesis (and other perspectives) to others using your own preferred language of choice, be it music, dance, video game design, magic tricks, science fiction, stand up comedy, animation or knitting.

As said, the solutions offered here can be utilized by many different political ideologies and embedded into existing models. If you are tired of interest-group-oriented compromise politics and you would rather like to support a more "game-design-oriented" approach that seeks to strip all privileges from all existing groups and, instead, maximize positive freedom - people's chance to choose their roles in the society - starting up a fresh party with such an agenda might make sense. However, don't call it a "Root Bug" party, as organizations established to treat a problem or to fight an enemy tend to develop an incentive to maintain that problem or enemy. You could call it for example a "Sustainability Party", "Non-Interest-Group Union", or a "Geo-Libertarian Alliance".

"Nothing is irreplaceable, a habit is not a need." – Paolo Coelho

"Every generation needs a new revolution." – Thomas Jefferson

"Never doubt that a small group of thoughtful, concerned citizens can change the world. Indeed it is the only thing that ever has." – Margaret Mead

"I don't know the key to success, but the key to failure is trying to please everybody. " – Bill Cosby

"If you show people the problems and show people the solutions, they will be moved to act." – Bill Gates

"Like Abraham Lincoln, I am a firm believer in the people, and, if given the truth, they can be depended upon to meet any national crises. The great point is to bring before them the real facts." – Douglas MacArthur, General of the Army

"What is the value of our philosophy if we do not do our utmost to apply it? To simply know a thing is not enough. To merely speak or write of it occasionally among ourselves is not enough. We must do something about it on a large scale if we are to make headway. These are critical times, and drastic action is needed. To make any worthwhile impression on the multitude, we must go in droves into the sacred precincts of the men we are after. We must not only tell them, but show them just how and why and where our claims can be proven in some actual situation..." – Elizabeth Magie Phillips (1940)

"Because, you see, our society cannot stand non-participation. It cannot stand really fundamental criticism. And so it is in a very, very weak state." – Alan Watts[2637]

2637 6:12->, Watts, Alan, "The Fool, The Joker And The Monk", lecture, viewed 3.2.2014, https://www.youtube.com/watch?v=xtHPUThgdyI

6 APPENDICES

6.1 APPENDICES WITH USEFUL BACKGROUND MODELS AND CONCEPTS

6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness

"And one thing we know for certain is that chasing meaning is better for your health than trying to avoid discomfort. And so I would say that's really the best way to make decisions, is: Go after what creates meaning in your life and then trust yourself to handle the stress that follows." – Kelly McGonigal[2638]

"Change has a bad reputation in our society. But it isn't all bad – not by any means. In fact, change is necessary in life – to keep us moving ... to keep us growing ... to keep us interested. ... Imagine life without change. It would be static ... boring ... dull." – Dr. Dennis O'Grady in "Bottom Line – Personal"

"Life is never made unbearable by circumstances, but only by lack of meaning and purpose." – Viktor E. Frankl

"The circumstances of our lives may actually matter less to our happiness than the sense of control we feel over our lives." – Rory Sutherland, Perspective is everything[2639]

There has been a lot of discussion about happiness politics and happiness economics calling for a system that makes human happiness its primary objective.[2640] There is also a lot of new psychological and sociological research on what makes people happy. However, the word "happiness" is not as self-explanatory as one might expect. Many of us directly equate "happiness" with "satisfaction" and a common metric used in happiness research is "overall life satisfaction". And "satisfaction" is the dangerous word here. Ludwig von Mises says it quite descriptively:

> "We call contentment or satisfaction that state of a human being which does not and cannot result in any action." ... "The incentive that impels a man to act is always some uneasiness. A man perfectly content with the state of his affairs would have no incentive to change things. He would have neither wishes nor desires..." (Mises 1949, p. 13)

However, we should seriously question whether a person in such a state would truly be "perfectly happy" and "simply live free from care." (Mises 1949, p. 13-14)

Many libertarians rightfully question the point of "happiness politics" – in this "life satisfaction" sense of the word – as any achieved happiness always seems to fade away. And yes, people tend to get used to any given steady state and start considering it the zero-level – the "hedonic treadmill". Dan Gilbert's TED Talk "The Surprising Science of Happiness" demonstrates some empirical examples of this.[2641] However, when Gilbert talks about "happiness", he, too, is talking about *satisfaction*.

But, there is another definition of "happiness," presented in for example Russ Harris' book "The Happiness Trap" (2008): "living a rich, full and meaningful life". Striving for sustainable, continuous satisfaction is a "Red Queen's Race" – with yourself! Satisfaction – including customer satisfaction in marketing terms – is a function of outcomes and expectations and thus, if happiness were satisfaction, pessimists would be the happiest of us. But this clearly is not the case. Research rather suggests that optimism and gratitude are correlated with a sense of meaningfulness and one's life feeling worthwhile.

According to professor of astronomy Esko Valtaoja, the Ancient Greeks already knew that people are not happy when things *are* better, but when:

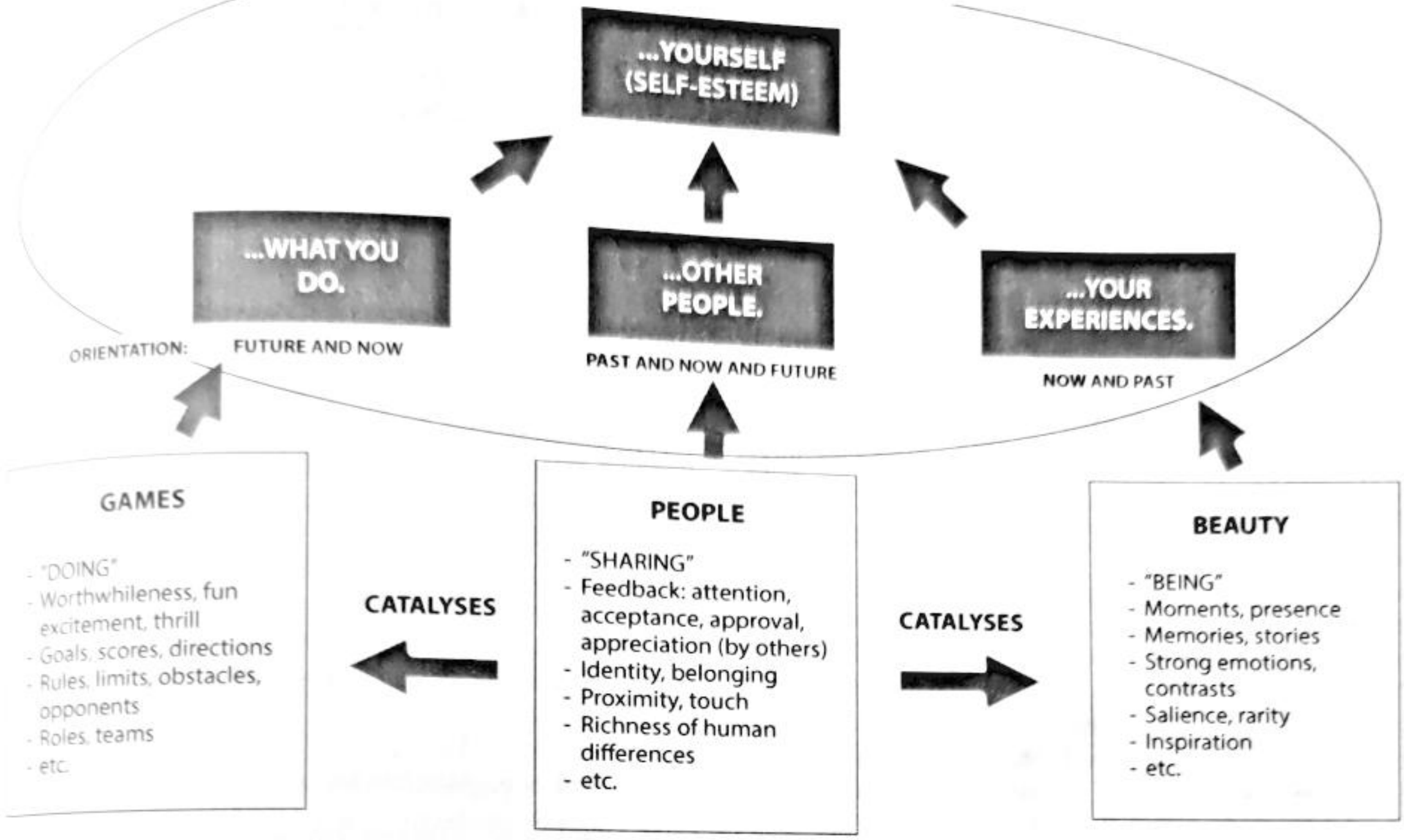
- They consider themselves valuable

2638 14:02->, McGonigal, Kelly, 2013, "How to make stress your friend", viewed 8.12.2013, http://www.youtube.com/watch?v=RcGyVTAoXEU

2639 3:54->, Sutherland, Rory, 2011, "Perspective is everything", TED Talk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perspective_is_everything.html

2640 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

2641 Gilbert, Dan, 2004, "The Surprising Science of Happiness", TED Talk, viewed 15.1.2013, http://www.ted.com/talks/dan_gilbert_asks_why_are_we_happy.html



GRAPH 42: "HAPPINESS IS APPRECIATING" – A FRAMEWORK OF WHAT MAKES LIFE WORTHWHILE.

- When they see the world they live in as a valuable place
- And when they feel that they can make the world a better place.

Combining many different models of happiness, the author of this book has synthesized a framework, which translates happiness into *appreciating*. Happiness means that you:

- Appreciate yourself
- Appreciate other people around you
- Appreciate your past life experiences and individual moments
- Appreciate what you are currently doing and what you are striving for.

However, just pondering about things and trying to be grateful for and appreciative of them isn't very effective. "Sustainable" positive thought requires positive action. Aspects promoting appreciation in our lives could be grouped into:

- People
- Beauty
- Games

"Games" (spelled with capital 'G' in this book when used in this broader meaning) are any kinds of objectives that you are trying to achieve or "scores" you are trying to maximize. The goal or score itself does not necessarily need to have any other absolute value for the Game to make your life more worthwhile - make you appreciate what you do. What is more relevant is that the dynamics of the game and your role in are compatible with your inherent preferences and that you have some sort of *sense of progress* and *control* in the Game. The enemy of life being worthwhile is *boredom* – which might often result from excessive *satisfaction*, an inability to want and to desire, i.e. to appreciate things that you *don't* have.

> "To be what we are, and to become what we are capable of becoming, is the only end of life." – Robert Louis Stevenson

> "Our business in life is not to succeed, but to continue to fail in good spirits." – Robert Louis Stevenson

"It is perhaps a more fortunate destiny to have a taste for collecting shells than to be born a millionaire." – Robert Louis Stevenson

"Sometimes it's a little better to travel than to arrive." – Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance (2006)

"A strive to fulfill one's hopes by owning things is the same as an attempt to put out a fire with straws." – Chinese Proverb

The objectives or scores of a Game can be almost anything and need not be connected to anything of "absolute value". But a sense of higher purpose beyond that individual Game can add to the fulfillment. Many good computer games and board games also have a plot – a story explaining why the character you are playing is doing what it is doing.

"For success, like happiness, cannot be pursued; it must ensue, and it only does so as the unintended side effect of one's personal dedication to a cause greater than oneself or as the by-product of one's surrender to a person other than oneself. Happiness must happen, and the same holds for success: you have to let it happen by not caring about it. I want you to listen to what your conscience commands you to do and go on to carry it out to the best of your knowledge. Then you will live to see that in the long-run – in the long-run, I say! – success will follow you precisely because you had forgotten to think about it." – Viktor E. Frankl, Man's Search for Meaning

But what about all those philosophers and life coaches telling people to "live in the moment" or enjoy the "little things"? They have a point too. Life is not all strife and pursuit. "Beauty" (spelled with capital B in this book when used in this broader meaning) is composed of other appreciative feelings, related to the current moment and memories from earlier ones. Beauty is not just harmony, pleasure and aesthetics, but contrasts between these and dissonance, pain and ugliness. The enemy of appreciating one's life experiences is numbness. People also need pain to feel alive.

"The best things are nearest: breath in your nostrils, light in your eyes, flowers at your feet, duties at your hand, the path of God just before you. Then do not grasp at the stars, but do life's plain common work as it comes certain that daily duties and daily bread are the sweetest things of life." – Robert Louis Stevenson

Other people act as catalysts for both Beauty and Games. Shared joy is double the joy – or actually even more. It is far more fun to succeed and fail together and far more beautiful to experience a magical moment with someone we care about. An important mechanism in this catalysis is our capacity for empathy.[2642] This allows us to share experiences partly by merely reciting them (or showing pictures related to them) afterwards.

But because we are fundamentally social creatures, interaction with other people also has inherent value to us. We have purely social needs that cannot be attributed to feelings of progress or contrasts between other emotions. These include the need we have for human touch and seemingly "useless" interaction like small talk.

Most importantly, associating and comparing ourselves with others allows us to develop an *identity*. We all want to be "a special part of something special". Without points of comparison and feedback from others, we cannot see how we are special and our ability to appreciate the full value of our own existence is very limited. The biggest enemies of such social value are unempathic feelings like jealousy, hostile envy (as opposed to the admiring and inspiring type of envy) and grudge.

It is possible that an upcoming book will discuss in more detail:

- Different parts of this framework
- Different appreciative and depreciative feelings and their value
- The framework's implications in terms of the different areas of life
- How you can better clarify your own values to yourself to relieve yourself of unnecessary internal conflicts
- How you can be more tolerant, understanding and empathic towards others by understanding their Game and Beauty values and relating them to your own.

Although the exact formulation of this framework is original, most of its components are supported by psychological research and have been presented in earlier literature. I suggest the following reads:

On how self-esteem is a fundamental part of happiness and controls much of our actions:
Giblin, Les, 1985, "How to have Power and Confidence in Dealing with People," Prentice Hall Press, ISBN: 978-0134106717.

On how the illusion that satisfaction is the natural state of things causes people to avoid dealing with difficult emotions, to tell counterproductive stories to themselves

2642 See: "6.1.3 Appendix 1.3: A Model of the Value of Helping and Co-operation: Empathy, Contribution, Image-Boosting, Shame and Guilt".

Harris, Russ, 2008, "**The Happiness Trap: How to stop Struggling and Start Living: A Guide to ACT**", Trumpeter, ISBN: 978-1590305843.

Tony Hsieh writes on how people need goals to feel alive and how the best innovations emerge out of chaos and humor. At the end he also presents some happiness frameworks, e.g. one emphasizing a Sense of Control, a Sense of Progress and a Sense of Purpose:

Hsieh, Tony, 2010, "**Delivering Happiness: A Path to Profits, Passion, and Purpose**", **Grand Central Publishing**, ISBN: 978-0446576314.

The Sense of Control of, Sense of Progress and Sense of Purpose are almost analogous to "Autonomy, Mastery and Purpose", which Dan Pink presents as the central elements of human motivation and increasing productivity. He sums up research emphasizing the importance of intrinsic motivation:[2643]

Pink, Daniel H., 2009, "**Drive: The Surprising Truth About What Motivates Us**", **Riverhead Books, ISBN:** 978-1594488849.

On how a sense of progress, control and purpose can result in a "flow" experience which involves high productivity and authentic feelings of happiness: (cf. Games, Sense of Progress)

Csikszentmihályi, **Mihály, 1991, "Flow: The Psychology of Optimal Experience", Harper Perennial, ISBN: 978-0060920432.**

Martin Seligman defines "well-being" as composed of:

- Positive Emotion (="Happiness")
- Engagement (cf. Games, Sense of Control)
- Relationships (cf. People)
- Meaning (cf. Self-esteem, Games, Sense of Purpose)
- Accomplishment (cf. Games, Sense of Progress)

Seligman, **Martin E.P., 2011, "Flourish: A Visionary New Understanding of Happiness and Well-being"**, Simon and Schuster, **ISBN: 978-1439190777.**

Also Jonathan Haidt does a good job of summing up many old myths and philosophies about happiness and relating them to modern research findings. He also discusses the effects of metaphors and language on our thinking:

Haidt, Jonathan, 2006, "The Happiness Hypothesis", Arrow Books Ltd, ISBN: 978-0099478898.

2643 Pink, Daniel, 2009, "The puzzle of motivation", TED Talk, viewed 8.5.2013, http://www.ted.com/playlists/60/work_smarter.html

The Finnish philosopher Lauri Järvilehto rephrases Autonomy, Mastery and Purpose as Freedom ("vapaus"), Flow ("virtaus") and Responsibility ("vastuu"), linking them to Robert Bellah's three ways of seeing one's work as a "job", a "career" or a "calling".[2644] (Bellah 1985)

Also the six basic human needs listed by Tony Robbins are quite coherent with the Appreciation framework.

- Certainty (cf. Games, Sense of Control)
- Uncertainty (cf. Games)
- Significance (cf. Self-esteem)
- Connection and Love (cf. People, Relatedness)
- Growth (cf. Self-Esteem, Games, Sense of Progress)
- Contribution (cf. Self-esteem, People, Games, Sense of Progress, Sense of Purpose)[2645]

It is also interesting to compare the findings of modern positive psychology to older, more "utilitarian" theories of motivation, such as that of Abraham Maslow with its hierarchy of needs. Skipping the first level of Physiological needs we find clear overlaps (notice especially the influence on Tony Robbins's six basic needs):

- Security Needs: body, employment, resources, morality, family, health, property (cf. Sense of Control, People)
- Love/belonging: friendship, family, sexual intimacy (cf. Connectedness, People)
- Esteem: self-esteem, confidence, achievement, respect of others, respect by others (cf. Self-Esteem, Sense of Progress)
- Self-Actualization: morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts (cf. Sense of Purpose, Sense of Progress)

Maslow, Abraham H., 1943, "A Theory of Human Motivation", Psychological Review, vol. 50, iss. 4, pp. 370-396, viewed 4.4.2014, http://psychclassics.yorku.ca/Maslow/motivation.htm

The five actions to improve one's own happiness listed by Nic Marks of the New Economic Foundation in his book "The Happiness Manifesto" are also very compatible with the framework:

2644 Järvilehto, Lauri, "Vapaus, virtaus ja vastuu: Yksilökeskeisyydestä yhteisön kukoistukseen", Ajattelun Ammattilainen, 14th Oct 2013, cited 12.3.2014, http://ajattelunammattilainen.fi/2013/10/14/vapaus-virtaus-ja-vastuu-yksilokeskeisyydesta-yhteison-kukoistukseen/

2645 Robbins, Tony, 2006, "Tony Robbins: Why we do what we do", TED Talk, viewed 6.6.2012, http://www.ted.com/talks/tony_robbins_asks_why_we_do_what_we_do.html

- **Connect (cf. People, Connection):** "With the people around you. With family, friends, colleagues and neighbors."
- **Be active (cf. Games):** "Go for a walk or run. Step outside. Cycle. Play a game. Garden. Dance."
- **Take Notice (cf. Beauty):** "Be curious. Catch sight of the beautiful. Remark on the unusual."
- **Keep Learning (cf. Games, Self-esteem, Sense of Progress):** "Try something new. Rediscover an old interest. Sign up for that course."
- **Give (cf. People, Contribution, Sense of Purpose):** "Do something for a stranger. Thank someone. Smile. Volunteer your time."

Marks, Nic, 2011 "The Happiness Manifesto", TED Conferences, ASIN: B004K1F1W2.

Sam Berns, "suffering" from progeria (a genetic condition of abnormally fast aging), presented his life philosophy at a memorable and inspiring TEDx speech. It also emphasizes meaningful relationships and the importance goal-oriented doing.

1. Be OK with **what you** ultimately can't do, because there is so much you **CAN do** (cf. Games, Sense of Progress, Sense of Control)
2. Surround yourself with **people** you want to be around (cf. People)
3. Keep **moving forward** (cf. Games, Sense of Progress)
4. Never miss a **party** if you can help it (cf. People, Beauty) [2646]

Victor Frankl, whose thought was strongly shaped by his years at the Auschwitz concentration camp is another writer famous for emphasizing man's need for meaning over e.g. satisfaction or pleasure.[2647]

Frankl, Victor Emil, 1946, "Man's search for meaning", Beacon Press (2006), ISBN: 978-0807014295.

Additionally, there is a lot of literature on the power of *gratitude* exemplifying how important it is to remember to appreciate the things that one *has*. Other literature, however, criticizes much of this genre for overly trusting the omnipotence of "positive *thinking*" and neglecting the necessity of positive *action*! Additionally, I emphasize that one should also appreciate what one *doesn't have*, as it allows us to *want* and gives us something to strive for – and therefore also propels positive action. Goals (directions given by potentially attainable ends) make our lives more *worthwhile* and *dreams* (the unattainable type of inspiring fantasy) make them yet more *Beautiful*.

This model and the evidence supporting it strongly suggest considering more of a "game design approach" to our economic system.[2648]

"There is no duty we so much underrate as the duty of being happy. By being happy we sow anonymous benefits upon the world." – Robert Louis Stevenson

"I don't feel that it is necessary to know exactly what I am. The main interest in life and work is to become someone else that you were not in the beginning. If you knew when you began a book what you would say at the end, do you think that you would have the courage to write it? What is true for writing and for love relationships is true also for life. The game is worthwhile insofar as we don't know where it will end." – Michel Foucault

"Progress stops in satisfaction." – Teemu Selänne

"Never perfect. Perfection goal that changes. Never stops moving. Can chase – cannot catch." – Abathur, a Zerg character in "StarCraft 2: Heart of the Swarm".

2646 Berns, Sam, 2013, "My philosophy for a happy life", TEDx Talk, TEDx Mid-Atlantic, viewed 25.1.2014, http://www.youtube.com/watch?v=36m1o-tM05g

2647 See e.g.: Smith, Emily Esfahani, "There's More to Life Than Being Happy", The Atlantic, 9th Jan 2014, cited 20.1.2014, http://www.theatlantic.com/health/archive/2013/01/theres-more-to-life-than-being-happy/266805/

2648 See: "2.1.6 Conclusions - How about a Game Design Approach?".

6.1.2 Appendix 1.2: Different Types of Value Products Provide

6.1.1 Appendix 1.1: Happiness Is Appreciating - A Framework of Happiness" gives one example of how we can classify the kinds of value people experience: into Game values, Beauty values and People (social) values. A useful, related way of classifying the types of values *products* and *services* have for us is the split into:

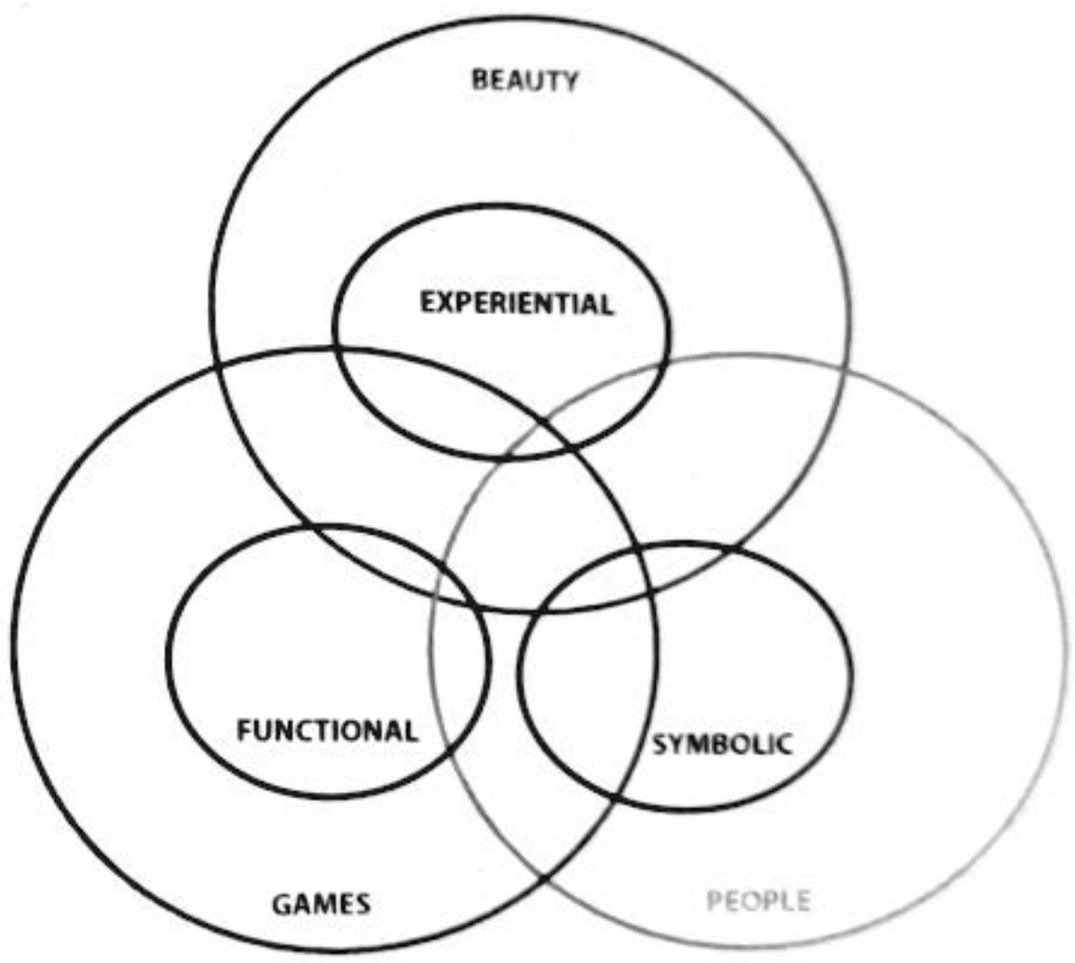
- functional,
- symbolic and
- experiential.

This framework was presented by Park, Jaworski and MacInnis (1986) in their article "Strategic brand concept-image management". Products that serve the purpose of solving a specific problem have functional value. Products that serve the purpose of communicating something (often about ourselves, our values and identities) to others or ourselves have symbolic value. Services that we appreciate in themselves have experiential value.

The value we see in products might well vary individually: For the author of this book (as probably for famishing people) food is more a functional product, whereas Park et al considered food to be primarily an experiential product class. Thus - as a way to differentiate and meet the needs of these different customer segments - there are brands of each type within product categories, for example toothpaste that focuses on whitening or sensitivity (functional), freshness, taste and packaging (experiential) or being e.g. "organic" or a luxury product (symbolic). Park et al suggested that a product should pick one of these brand categories to avoid the brand image being diluted.

To compare this categorization to the types of value presented in "6.1.1 Appendix 1.1: Happiness Is Appreciating - A Framework of Happiness", "Beauty" is the value in experiences and perception and hence a big component of experiential value, products used in the main "Games" of our real lives are usually mainly appreciated for their functional capabilities and symbolic products are used to build our identities in the eyes of other people (and ourselves) or send other kinds of messages. However, the analogy isn't even close to perfect. For example:

- Identity building is almost more of a "Game" than something providing us with social, "People" value.
- Actual games, gaming services and sports facilities mainly provide experiential value, but definitely a lot of Game Value (though also Beauty value).
- Also real life Games can involve collecting experiences (one might make visiting as many countries or cities as possible a Game).
- Collecting symbols (e.g. products of a certain brand or product group) easily becomes a Game.
- Symbolic elements are a big part of what makes something beautiful to us - what raises emotions.
- Products with clearly functional value can serve mainly a social (People) value end (e.g. cell phone) or Beauty values (e.g. binoculars for a bird watcher).



GRAPH 43: A ROUGH VENN DIAGRAM OF THE POSSIBLE OVERLAPS BETWEEN THE DIFFERENT TYPES OF VALUE THAT PEOPLE EXPERIENCE IN GENERAL AND THAT PRODUCTS AND SERVICES PROVIDE ACCORDING TO PARK ET AL (1986)

6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt

"How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it. Of this kind is pity or compassion, the emotion which we feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner. That we often derive sorrow from the sorrow of others, is a matter of fact too obvious to require any instances to prove it..." – Adam Smith, The Theory of Moral Sentiment (1759, Part 1, Section 1, Chapter 1)

"The other classic form of altruism is reciprocity: initiating and maintaining relationships in which two agents trade favors, each benefiting the other as long as each protects himself from being exploited. Once again, a vast amount of human cooperation is elegantly explained by this theory. People are 'nice,' both in the everyday sense and the technical sense from game theory, in that they willingly confer a large benefit to a stranger at a small cost to themselves, because that has some probability of initiating a mutually beneficial long-term relationship. (It's a common misunderstanding that reciprocal altruists never help anyone unless they are soliciting or returning a favor; the theory in fact predicts that they will sympathize with the needy.) People recognize other individuals and remember how they have treated and been treated by them. They feel gratitude to those who have helped them, anger to those who have exploited them, and contrition to those whom they have exploited if they depend on them for future cooperation." – Steven Pinker, The False Allure of Group Selection[2649]

Humans are social creatures and have survived and prospered by cooperating, specializing and sharing skills and knowledge. In a primal, small tribe – just like within a family household nowadays – no money is needed. People do things for the common good because of their loyalty to the tribe and because they care about each other. Ferdinand Tönnies calls these kinds of personal and communal relationships "Gemeinschaft" relationships as opposed to "Gesellschaft" relationships, which are dependent on mutually beneficial trade or a specific type of cooperation. (Aro & Jokivuori 2010, p. 111-129) A rough – although not quite analogous – translation could be "social relationships" and "societal relationships", respectively.

What is the "currency" in this kind of system? Gratitude, other forms of recognition and expressions of appreciation.

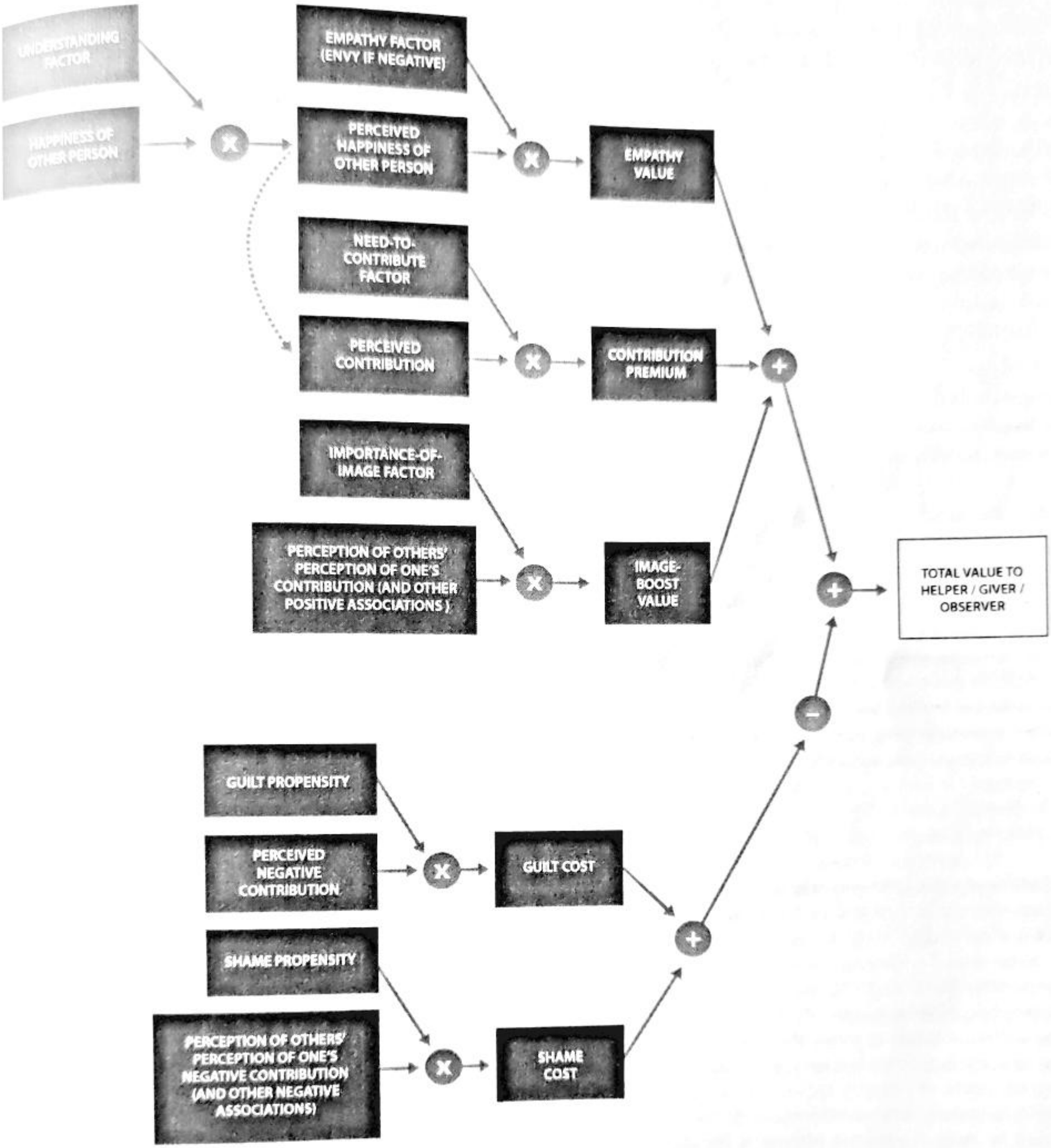
The idea of a completely self-interest-seeking human being ("homo economicus"[2650]) is one simplified assumption used in many economic theories and probably one of the most trendy to criticize. (e.g. Chang 2010, p. 41-50) It is often even used as an excuse to reject any predictions made by economic models or to argue against a market economy. However, what we mean by "seeking self-interest" is not as self-explanatory as one might think. Because human beings are social creatures, we do naturally care about what happens to others and – often even more – what our own impact on others and the whole community is. But whether this can be called "altruism" – as in "indifferent of self-interest" – is quite a difficult philosophical question: If we get pleasure from the pleasure of others and of feeling useful to the society, then taking others' advantages into consideration can be considered to be in one's self-interest![2651] The definitions of "altruism" and "self-interest" are not the main subject here, but we'll try to distinguish between different kinds of value one can gain from helping others and perceiving their successes and pleasures. The distinctions are made mainly according to factors influencing such value – i.e. causes[2652] and prerequisites of such value. An overview can be seen in Graph 44.

2649 Pinker, Steven, "The False Allure of Group Selection", An Edge Original Essay, 18th Jun 2012, cited 12.12.2013, http://edge.org/conversation/the-false-allure-of-group-selection

2650 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2651 "When morality is reduced to the opposite of self-interest, however, the virtue hypothesis becomes paradoxical: In modern terms, the virtue hypothesis says that acting against your self-interest is in your self-interest." (Haidt 2006, p. 164)

2652 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".



GRAPH 44: EMPATHY VALUE, THE CONTRIBUTION PREMIUM, IMAGE-BOOST VALUE, GUILT COST AND SHAME COST.

6.1.3.1 Empathy Value – the Understanding and Empathy factors

"Thousands of candles can be lit from a single candle, and the life of the candle will not be shortened. Happiness never decreases by being shared." – The Buddha

"Pity may represent little more than the impersonal concern which prompts the mailing of a check, but true sympathy is the personal concern which demands the giving of one's soul." – Martin Luther King, Jr.

"And is not cohesion the result of the common feelings of pleasure and pain which you get when all members of a society are glad or sorry at the same success and failure?" – Plato, The Republic (1987, p. 247)

"[E]nvy tends to make everyone worse off. In this sense it is collectively disadvantageous." – John Rawls, A Theory of Justice (1971, p. 124)

One of the most magical superpowers we humans possess is *empathy* – our ability to feel what we perceive another person to be feeling and our ability to value the value another person is receiving or experiencing. "Shared joy is double the joy", says an old Finnish proverb. Empathy creates value – by multiplying it! "Sympathetic arousal" has been observed in children of age 2 simply when *seeing* others being helped by a third party. (Hepach et al 2012)

So if someone else gets something or has something great happen to them, I can feel that joy too. My joy, however, is not a direct copy of the other person's joy, but – in this simplistic model – filtered through two "multipliers": the *understanding factor* and the *empathy factor*. Of course, this is a simplification of value into one axis. There might be many different kinds of value that we can experience, and there is variance in our ability to relate to (understand) different kinds of value experiences. Value would better be modeled as a vector and the multipliers as matrices, but let's not be (too) engineers about it. Let's just assume for the simplicity of demonstration that all kinds of value are comparable and can be aggregated into one figure.

When understanding is perfect, the understanding multiplier is 1. In the case of a misunderstanding – we thought someone liked something more than she did – the multiplier can even be bigger than 1. The factor is negative if we think that someone appreciates something that actually causes her harm or inconvenience.

The empathy multiplier is affected by our general tendency to be empathic and our relationship with the specific person. Empathy in relationships is often mutually reinforcing tendency, and one-sided empathy is seldom very sustainable, but it is also very unlikely that the empathic tendencies of two people towards each other would be completely equal. It is noteworthy that increased understanding of another person's values – and especially recognized similarities between our values – might also increase our empathic tendency towards them, i.e. raising the understanding factor might also raise the empathy factor.

'Envy', i.e. considering another's gain to be one's own loss, can be considered having a negative empathy multiplier toward that person – and so could deriving pleasure from that person's suffering (sadism), loss, or failure (German: "Schadenfreude", Finnish: "vahingonilo").

If empathy is a multiplier, doesn't it also multiply the "bad" – all the depreciative feelings, too? Through empathy, we can also experience other people's "bad" feelings. This includes longing and grief of loss, which could still be considered "appreciative" feelings[2653] – signs of having valued something – as well as depreciative feelings, like frustration, fear, envy, and rage. However, we don't necessarily experience such feelings in exactly the same way through empathy. They might take a more positive or even inspiring form. One good example is fear. We cannot fully experience another person's fear through empathy, unless we really feel at threat ourselves. For example when one is watching a thriller movie, one feels the exciting part of the fear, but not necessarily so much the paralyzing, permanently stressing, and traumatizing part. One is often more afraid of being frightened by e.g. a sudden noise than the thing the character is scared of. Some people – especially children – are of course more sensitive and may be more easily traumatized by these kinds of empathic fear experiences.

The other half of the Finnish proverb says: "Shared grief is half the grief." However, empathy can become damaging to the empathizer as well, e.g. when the sickness (or other turmoil) of one's spouse, child, or parent wears one out emotionally or when a person tries to carry the pain of the world (e.g. the lead character in the 1999 movie "The Green Mile"). Full empathy involves the danger of an emotional burnout. (Klimecki et al 2013) As researcher Olga Klimecki says: "When we share the suffering of

2653 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

others too much, our negative emotions increase."[2654] She and her colleagues suggest that especially people working in caring professions should instead practice *compassion* – concern for another's suffering and desiring to enhance that individual's welfare". Compassion is hence closer to a need-to-contribute (discussed next) than to actual empathy. There is a thin line between compassion and pity.

6.1.3.2 The Contribution Premium

"For it is in giving that we receive." – Francis of Assisi

"Giving is better than receiving because giving starts the receiving process." – Jim Rohn

"You can give without loving, but you can never love without giving." – Robert Louis Stevenson

Empathy can apply to any joy of someone that one cares about – regardless of what one's own contribution to that joy has been. But a primary force driving people is their need to feel valuable themselves. People would do anything to protect their own self-esteem.[2655] That is why giving and helping is even better than merely perceiving joy. Contributing to the welfare of others and to the betterment of the whole society significantly boosts one's sense of self-worth.

Let's call this added sense of self-worth from giving, helping and otherwise contributing the *contribution premium*. Note that the contribution premium is not affected by the empathy multiplier, but a separate *need-to-contribute* factor and that it only applies when we're giving something to someone or feel that we have some kind of influence on the value the other person is experiencing.[2656] The previously mentioned *compassion* could be counted as a need-to-contribute factor directed at specific people as opposed to a generic need to contribute.

The need-to-contribute multiplier behaves differently for all of us. For some it might decline as they contribute: Just doing a little bit for others makes them feel "worthy enough" and added input gives them little extra self-esteem. For others, contribution might become almost an obsession – a Game of constantly trying to be more and more helpful. This can of course have both harmful and beneficial outcomes, to others and to the person himself.

The contribution premium is – more often than empathy – what explains people's motives for charitable giving. Charity is mainly directed towards people with whom we are not close. Calling things we do for our loved ones or people within our immediate society "charity" would most often be considered hypocritical. Charity seems to almost *require* an *absence* of empathy! Moreover, a person you care about would consider it insulting and demeaning if you gave them "charity".

This is why charity often doesn't stop to ask or to try to understand what the object of the charity would really want or need. Because the primary objective is to boost one's own self-esteem (or to relieve guilt[2657]), a better understanding of the other person's needs and values could endanger this feeling. Especially if we have already contributed significant amounts in a certain way (e.g. given to a specific charity organization), we do not want to feel that all of that would have been in vain – or, even worse, that it might be doing damage.

When there is strong empathy and a strong need to contribute, it is worth giving, even when we would appreciate the thing more ourselves than we expect the other person to appreciate it: The empathy gives us back most of the value we give away and the contribution premium adds to the value. So when we say that "shared joy is double the joy", it might actually be much more than that. Just giving something of ours to someone else instead, would double the total joy assuming full empathy and similar preferences, but, in addition, we get the contribution premium. Michael Norton's TED talk "How to buy happiness"[2658] presents some empirical evidence on how giving produces more value than getting.

6.1.3.3 Image-Boost Factor

"Behavior is the mirror in which everyone shows their image." – Johann Wolfgang von Goethe

A person's sense of self-worth is also strongly affected by how others see him. We need some kind of positive feedback. We have an inherent longing for attention, acceptance, approval and appreciation from others. (Giblin 1985) Giving and contributing – when visible to

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2654 Hoffman, Adam, "When Empathy Hurts, Compassion Can Heal," Greater Good, 22nd Aug 2013, cited 26.1.2015, http://greatergood.berkeley.edu/article/item/when_empathy_hurts_compassion_can_heal

2655 See "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

2656 See "6.1.4 Appendix 1.4: The Conundrum of Causality – The Cultural Depends on Comparison".

2657 See: "6.1.3.4 Guilt – the Negative Contribution Premium".

2658 Norton, Michael, 2011, "How to buy happiness", TED Talk, viewed 24.5.2013, http://www.ted.com/talks/michael_norton_how_to_buy_happiness.html

others – also builds one's public image and may boost one's status within the group one belongs to or relative to the ones being helped. This could be distinguished from purely "a need to contribute", as we can get the satisfaction of helping even when no one else knows about the extent of our contribution.

In charity, the need to contribute is often a more significant explaining factor than empathy, but the need to boost one's public image might be a yet bigger one.[2659] Charity boosts the giver's status and lowers the status of the receiver. This is one reason why charity towards people close to you is easily taken as an insult. Charity is often a form of pity – and pity is not appreciation. Rather, it is depreciation of another person's abilities or situation.

While the contribution premium is affected by a person's need to contribute and his own perception of his contribution, the image-boost factor is affected by the person's *perception of other people's perception* of his contribution. Research also suggests that status (and image) is more affected by being generally *associated* with something than how much one has effectively contributed or how well one has performed otherwise. For example, having lost against many good teams makes a basketball team more likely to be invited to a tournament (with no objective qualification criteria) than beating many mediocre teams. The association of having played against other reputable teams is what counts more for status than successes. Therefore, the image-boost value is also affected by how we consider others to associate ourselves – not only how others perceive our contributions. A charity for very disturbing or controversial issues might find it harder to find donors than ones for less emotionally charged (or more positively charged) issues because donors might not want to get associated with the controversial issues – not even by contributing against it.

The factor multiplying this perception of others' perception is a person's need to boost one's self-image. It should not be surprising if the biggest charity-do-gooders would tend to have other narcissistic traits as well.

6.1.3.4 Guilt – the Negative Contribution Premium

> "And while it is true that we are all one human family and that every individual involves every other individual, while it is true, therefore, we should do something about changing the situation, the one way of not doing anything about a situation is feeling guilty about it. Because, when people feel guilty about a situation, you most usually, instead of doing something practical to change it, they resort to all sorts of symbolic methods of expiation. They go to confession, they see an analyst, they do all kinds of things, which will be ways of actually not doing anything about a problem – but feeling all right about the thing instead. And guilt invariably produces that sort of reaction. It is a destructive emotion. And instead we need to have a different attitude to our mistakes and our deeds." ... "[I]f you've done something wrong, you've made a mistake, and somebody makes you ashamed of it and guilty, you run around licking the sores of your wounded ego because you feel your pride has been hurt." – Alan Watts[2660]

> "Innocence does not find near so much protection as guilt." – Francois de La Rochefoucauld

Especially the virtue ethics advocated by many Christian churches is much more focused on preserving one's personal integrity than directly being concerned for the welfare of others (although Jesus was clearly an advocate of empathy, at least according to how he told people to love one another as they love themselves). Often more than striving for these positive contribution experiences, we are doing our best to avoid negative ones: feelings of having done harm, i.e. guilt. Guilt can be seen as a factor gnawing at one's sense of self-worth. In some situations, guilt and a sense of contribution can compensate for each other, but it might be difficult for people who feel they've trespassed against others (especially someone they love) to find permanent redemption by means of contribution.

As motives affecting behavior, we could also distinguish the effect that the *fear* of guilt has on actions from the effects of *currently* felt guilt. The first might result in avoiding certain actions or associations, while the second might result in attempts to somehow "make up" for the harm one thinks one has caused. Such actions of "expiation" are often more symbolic or oriented at making sacrifices – "punishing" oneself[2661] – than focused on undoing or effectively compensating for the damage. This is understandable if the main function of guilt is to prevent us from breaking the trust between people:

2659 More on this in "The Guilt Economy". See also: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

2660 2:16-> & 3:51->, Watts, Alan, "Money and Guilt", lecture/speech, viewed 16.1.2014, http://www.youtube.com/watch?v=c7tlaF3dv_M

2661 See: "6.1.3.6 The 'Virtue' of Self-Sacrifice".

drives us towards communicating that we want to establish trust and that we really do care about the effect of our neglect – that we aren't such "bad people" ourselves. But as Alan Watts points out, this reaction might prevent us from effectively assessing the actual problem triggering the guilt.[2662]

Rock's sister, "The Guilt Economy", discusses in more detail how our focus on guilt and on avoiding such negative associations (regardless of actual causalities[2663]) is especially prevalent in today's public discourse on environmental threats and social challenges and how it keeps us away from actually solving problems.

6.1.3.5 Shame – the Negative Image Effect

One can feel guilt over one's perceived negative contribution even without anyone else knowing it. However, even this often involves the fear of someone else finding out about it. We could distinguish the negative effect on one's image from the general feeling of having done something bad. Here we'll call the former "shame" and the latter "guilt". As with the image-boost factor, this is dependent on one's perception of others' perception of one's involvement with the damage – and how one is seen by others in general.

6.1.3.6 The 'Virtue' of Self-Sacrifice

> "To suffer unnecessarily is masochistic rather than heroic." – Viktor E. Frankl

> "When morality is reduced to the opposite of self-interest, however, the virtue hypothesis becomes paradoxical: In modern terms, the virtue hypothesis says that acting against your self-interest is in your self-interest." – Jonathan Haidt, The Happiness Hypothesis (2006, p. 164)

Christian virtue ethics, including the Protestant work ethic, have – in addition to guilt – managed to make virtues out of self-sacrifice, suffering and abstinence from pleasures. These can also apply for an ascetic hermit detached from society, and therefore this "value of self-sacrifice" in itself cannot be regarded as a kind of value of human interaction. It could instead be seen as a negative empathy factor towards oneself.

However, this virtue of self-sacrifice often forms an alliance with the contribution premium and guilt. If we've sacrificed more ourselves, we somehow perversely see that we have contributed more than a person who has enjoyed contributing, even if the effects would be the same.[2664] Also, we might feel guiltier if we ourselves have benefitted from the harm we've done to others, compared to doing something that also harms ourselves. This is probably one symptom of the intrinsic value we see in reciprocity and fairness (Rock 2008) – fairness both as "equality" and "proportionality". Therefore, such a self-sacrifice premium might be used to boost the seemingly futile attempts to offset guilt through contribution.

This self-sacrifice strategy can be extremely counterproductive – both for ourselves and others. In many cases, such self-sacrifice can actually be a way of trying to inflict guilt – a form of moral debt – onto others as an attempt to "balance the accounts." This is a sadly prevalent phenomenon among old couples. Although one might intuitively draw the conclusion that self-sacrifice is the ultimate form of "altruism", it could also be seen as the ultimate form of selfishness. If we were really thinking of the best of others (empathy), the amount of self-sacrifice should never have any kind of added value in itself. Especially, if we expect those others to be empathic towards us as well, self-sacrifice is practically evil, as hurting ourselves is hurting them.

Philosopher Ayn Rand had a very valid point in criticizing Western morality for granting absolute value to self-sacrifice.[2665] However, she clearly downplays the value of empathy as well as people's inherent desire to be useful and to serve others or some other greater cause. Victor E. Frankl emphasized this human yearning for meaning, but agreed that useless self-sacrifice is mere masochism.

6.1.3.7 The Value of Specialization and Sharing

When economists talk about the value of sharing, they usually refer to creating value by giving something to someone who values it more. The declining marginal utility of products and services combined with the benefits of scale in production make trade value-producing. It allows us to reap the gains of the increases in productivity resulting from the division of labor.[2666] Let us clarify that

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2662 2.16-2: Watts, Alan, "Money and Guilt", lecture/speech, viewed 6.1.2014, http://www.youtube.com/watch?v=c7tlaF3dv_M

2663 See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Cultural Depends on Comparison".

2664 For ideas of compensation according to sacrifice, see: "2.2.3.7 Participatory Economics – 'Let's All Decide on Things Together'".

2665 "Ayn Rand – The Morality of Altruism", viewed 2.2.2015, https://www.youtube.com/watch?v=51pMod2Aaso

2666 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress" and "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

the above described empathy value and contribution premium are values created independently of and in addition to this value of trade.

When sharing, we also benefit from the fact that the marginal value of one kind of thing usually declines with quantity and thus, if I have two strawberries, we will get a higher total direct benefit if I give the other to you, because that would be your first strawberry instead of my second, which I value less than I valued my first. This surplus value is produced, even without empathy and through empathy and the "contribution premium", even the giver can win many fold.

6.1.3.8 The Value of Differing Values

In the previous strawberry example, we assumed that both people appreciated strawberries equally. But in reality, people have very different preferences. "One man's trash is another man's treasure." You might like strawberries more than I do to begin with. This further adds to the profitability of trade – even without any empathic effect or contribution premium calculated in.

6.1.3.9 Gratitude Is an 'Empathic Currency'

> "Feeling gratitude and not expressing it is like wrapping a present and not giving it." – William Arthur Ward

The function of paying someone with money is essentially to transfer value: to compensate for her costs and to encourage her to do more of what you paid for. In our current monetary system, we pay with explicit credit relations, money, which grants the receiver purchasing power over other people's labor.

In an empathic society, gratitude and other expressions of appreciation are a kind of currency. It is an implicit form of credit. And that's what showing appreciation and noticing contribution is also called: "giving credit" to someone for something.

"Paying" with gratitude doesn't need to take value away from the grateful person – at least not as much as it can transfer value to the receiver. It lets the other person know that his effort was appreciated and gives him both empathy value and a sense of contribution. However, there is a thin line between gratitude and guilt. Both can be considered kinds of implicit indebtedness.

In the presence of complete understanding of others' desires, gratitude would theoretically be unnecessary and would produce no added value: We would know when we have been useful and when others have appreciated our efforts. But, in the ambiguous reality of our minds and our constantly changing value sets, communicating gratitude is a necessary way of confirming the value something has for us.[2667] Without expressing gratitude, we might easily even forget to appreciate the object ourselves. It is important to note that if the giver has no empathy or need to contribute, also gratitude is useless. Gratitude from a person towards whom I have a negative empathy factor (due to e.g. envy or hate), might have negative value to me – apart from the fact that it might boost my relative status.

However, gratitude is not a very accurate measure of the value of our efforts when we don't know the person that well. In such situations, paying in explicit credit can be the most reliable way of expressing gratitude and guaranteeing appreciation of what was received. When someone is ready to put effort in or give up other kinds of value in return for something they received, they likely considered that something valuable. (This same communication factor also partly explains our tendency to focus on self-sacrifice in relieving guilt.)

For example Charles Eisenstein (2011) advocates a return to a gift economy and explains how gifts form an enduring bond between the giver and receiver. However, most of us likely wouldn't want to have such a deep personal bond with every single person with whom we cooperate or trade directly or indirectly. We don't really have the empathic or social capacity for that. It can be relieving to be able to "close" some transactions, and not leaving any open-ended obligations. Milton Friedman emphasizes how explicit trade allows us to cooperate beyond our immediate circle, without discrimination by race, nationality, religion, or other such factors.

In addition to facilitating non-empathic cooperation and division of labor, money and trade could help us understand each other's needs better and even become more empathic. But currently the effect is quit the opposite, as money has become a definition of value for many of us. This is possibly partly because accumulating it is "too good" a Game: It allows a very clear sense of progress and control. Our two-faced love-hate relationship with money, as well as why charity will never solve our world's social problems is discussed in more detail in "The Guilt Economy". How we've fallaciously come to think of wages as an absolute measure of an activity's value was also discussed in "3.2.2 Unfair Income Differences and Limits to Social Mobility".

2667 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".

6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison

"Even a glance at human behavior suggests that people often think of causation in terms of hidden powers rather than just correlations. Many psychology experiments have shown that when people have a pet theory of how things work (such as that damp weather causes arthritis pain), they will swear that they can see those correlations in the world, even when the numbers that the show correlations don't exist and never did. The habit of hallucinating causal powers and forcing experience to fit them has shaped human cultures from time immemorial..." – Steven Pinker, The Stuff of Thought (2007, p. 217)

"How much better would we be if we treated the cause ... rather than the effect? Getting cause and effect right makes all the difference in the world." – Peter Attia[2668]

"It might be shown, for instance, by statistical investigation that a general rise in prices is followed by an expansion of production, and a general fall in prices by a diminution of production; but this would not necessarily mean that theory should regard the movement of price as an independent cause of movements of production. So long as a theory could explain the regular occurrence of this parallelism in any other way, it could not be disproved by statistics, even if it maintained that the connection between the two phenomena was of a precisely opposite nature." ... "[I]t is only where a given theory fails to explain all the observed phenomena that this statistical evidence can be used to judge its merits." ... "The oft-repeated assertion that statistical examination of the trade cycle should be undertaken without any theoretical prejudice is therefore always based on self-deception." – Friedrich A. Hayek, Monetary Theory and the Trade Cycle (Hayek 2008, p. 13, 14 & 16)

The Seventh Hawaiian Huna Principle: "Pono – Effectiveness is the measure of truth."

The worlds of economics and politics were shaken in the spring of 2013 when it was revealed that a commonly cited work by Carmen Reinhart and Kenneth Rogoff (2009) had a serious Excel programming error and had used unclearly documented and questionable ways of aggregating the data.[2669] The study, claiming that economic growth slows down when public debt rises above 90 % of GDP had been widely cited and referred to by politicians and other experts when justifying the public austerity measures by which Western countries had tried to balance their public budgets after the financial crises of 2008 and 2011. The discovery was often cited as extremely embarrassing and even giving the unemployed people someone to blame.[2670]

But the real reason for "embarrassment" is not questionable quantitative methods or the human errors in the execution of the study, but the whole idea of assuming *causality* simply based on historical *correlation* – especially on the part of the readers interpreting these findings.[2671] The Reinhart-Rogoff study simply compared the public debts and growth rates of different countries in different years. When we people observe two things often occurring together or one after the other, we tend to rather

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2668 7.46->, Attia, Peter, 2013, "Is the obesity crisis hiding a bigger problem?" TED Talk, TED MED, viewed 7.1.2013, http://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes.html

2669 Pollin, Robert & Ash, Michael, "Debt and Growth: A Response to Reinhart and Rogoff", New York Times, opinion pages, 29th Apr 2013, cited 16.5.2013, http://www.nytimes.com/2013/04/30/opinion/debt-and-growth-a-response-to-reinhart-and-rogoff.html?_r=0

2670 Linkins, Jason, "Reinhard-Rogoff Austerity Research Errors May Give Unemployed Someone To Blame", Huffington Post, 16th Apr 2013, 16.5.2013, http://www.huffingtonpost.com/2013/04/16/reinhart-rogoff-austerity_n_3095200.html

2671 How readers easily embrace the causal relationships deduced from historical correlations are clearly evident also in the reviews the book has received:
"The essence of their book is that while financial crises come in different varieties, they are not mysteriously born of undersea earthquakes, but frequently occurring events that can be spotted and even controlled if politicians and regulators know what to look for." (Devin Leonard New York Times)
"Two top-notch economists provide a clear and interesting explanation of why economic crises keep occurring. Broadly speaking, downturns such as the one we are recovering from are historically associated with characteristics that should sound quite familiar to today's investors." (David Schwartz, Financial Times)
"Having studied mountains of economic data during the past eight centuries, the authors insightfully point out the highly repetitive nature of financial crises resulted from a dangerous mix of hubris, euphoria and amnesia." (Shanghai Daily)
Cited 21.5.2013, http://www.amazon.com/This-Time-Different-Centuries-Financial/dp/0691152640

rashly conclude that the one (A) causes the other (B) – that we can induce the other (B) to occur by making the one (A) occur and that the observation of A lets us also assume B. And it's not just people: Very simple life forms show signs of this kind of learning through *conditioning*. However, it is dangerous to conclude such an unbreakable causal relationship simply by observing a correlation between two factors.

Firstly, if one tests enough of different regression models or examines the relationships between a sufficient number of variables, one is eventually bound to bump into a seemingly "significant" statistical correlation between some variables out of pure luck. If one compares 20 different variables to variable X, it is likely that at least one of those tests results a relation to variable X with a p-value smaller than 0.05, despite no actual causal relationship connecting X with any of them. Only if the results can be repeated again and again with new data, can the relationship be shown to be significant. (Young & Kerr 2011) The same applies to trying different models or data sampling and aggregation methods. Hence, analyses of historical data can almost always be made to show some kinds of "answers". As Ronald Coase famously put it, "If you torture the data enough, nature will always confess."

However, secondly, even if a statistically significant relationship between A and B could be shown, it might be that A is causing B or that B is causing A. It is even more likely that C or a collection of conditions and events [C, D, E, F...] together make both A and B more likely to occur. For example, even if the Reinhart-Rogoff observations had been faultless, it might well have been that high public debt was the result – rather than the cause – of low economic growth. (And very often – when measurements are not collected systematically – it can also be that some combination of factors simply makes it more likely to notice or pay attention to A and B.[2672])

> "If coffee drinkers are found to have more heart attacks, does that mean that drinking coffee causes heart attacks? NO, because correlation does not prove causation. Perhaps coffee drinkers tend to get less exercise, or are more likely to smoke, or eat fattier foods, and one or more of these is the real cause, while coffee drinking is an epiphenomenon. For coffee to cause heart disease, it would have to be true that in the nearest possible world in which people don't drink coffee, they get fewer heart attacks." (Pinker 2007, p. 213)

There are many definitions of causality, but many scientist have adopted the "counterfactual theory" (associated with philosopher David Lewis) that if B would occur in the current world, but would not have occurred in a world as closely similar as possible to the current world but without A, then A causes B. (Pinker 2007, p. 210-211) And as there often is variance and uncertainty in the outcomes of complex systems, "causing" more often means that something *increases the likelihood* of something occurring: "Smoking causes cancer" does not mean that lighting your first cigarette will immediately give you cancer – nor ensure you will get it in the future. Expressing this mathematically, "A causes B" does not need to imply that $P(B|A)$[2673] = 1 and $P(B|notA) = 0$, but that $P(B|A) > P(B|notA)$.). The main difference between logical conditions and causes is that causes need to precede the effect chronologically.

Also, as there are many factors at play, one condition (C) might significantly influence the effects of other factors (A) – even make them inverse, i.e. $P(B|(A \text{ and } C) < P(B|C)$, but $P(B|(A \text{ and } notC) > P(B|notC)$.[2674]

Causes can be said to be:

- sufficient or insufficient
- necessary or unnecessary
- contributory[2675]

"A is a sufficient cause of B" practically means that $P(B|A) = 1$.
"A is a necessary cause of B" practically means that $P(B|notA) = 0$.
"A is a contributory cause of B" practically means that $P(B|A) \neq P(B|notA)$

A cause is "contributory" if altering the cause alters the effect. In this sense, all possible causes are contributory causes.

The trouble with showing and concluding causality is that it is often not possible to achieve an even closely similar world because the occurrence of A usually changes other factors as well: Something else, e.g. C, might often occur when A occurs "naturally", but not when A is forcefully implemented – and this non-occurrence of C might be the decisive factor in determining whether B occurs or not. Also, external, "independent" factors are never static either.

2672 See: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

2673 "P(B)" means the probability of B occurring, and "P(B|A)" means the probability of B occurring on the *condition* that we know A occurs.

2674 For example, B could be "the supplied amount of medical work (by doctors) increases", A could be "the wages of doctors increase" and C could be "the number of medical education positions is limited". (See: "2.2.3.2 Restricting Supply – 'Stay out of Our Territory'".)

2675 "Necessary and Sufficient Conditions", Stanford Encyclpedia of Philosophy, cited 21.5.2013, http://plato.stanford.edu/entries/necessary-sufficient/

natural sciences like physics, we can create such almost equal worlds" in isolated laboratory conditions. the social sciences, this is more difficult as no human beings are exactly identical. But in for example behavioral examination we can get close to this by isolating large numbers of people and selecting randomly which tasks to give them or to which other stimuli to subject them.

economics, "the dismal science" – especially macroeconomics – is largely beyond such experimentation, as creating laboratory conditions for whole economic systems is a practical impossibility. Trying different policies on the same economic systems one after the other does not yield very robust results either, as any activity changes social structures and people's perceptions of things, and there is unavoidable *path dependence*.

When we have a data set where multiple variables have been observed systematically over a broad range of entities and a long time span, regression analysis provides some chances for inducing possible causality. It focuses on the connectedness of two variables at a time, attempting to statistically eliminate the effects of other variables. However, even when a clear connection is found, the possibility remains that the most decisive factors – which might be influencing the seemingly connected variables – have not been measured and are not included in the data set.

This and the complex quirks of human social behavior are some important factors making economics so dependent on models: Simplifications of assumed causalities between different variable – especially the assumptions of how humans and groups of people behave. Empirical observations can then fit the model – be "explained" by it – better or worse and hence provide "support" for it or, sometimes, refute it. But a model can never be proven to be an absolute truth. (Of course, no scientific theory or other model or framework can – many people in the Middle Ages were sure that everything was invented and that human understanding of our world was complete. As the title of Samuel Arbesman's book suggests, facts have a "half life". (Arbesman 2012) According to Karl Popper, science should progress by showing faults in the explanative and predictive power of existing models and making better ones.) Therefore the same observation can support – be explained through – very different kinds of models, which can make completely different predictions about other factors and the behavior of the system in other situations.

One example of this was explained in "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money" and "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply". Empirics suggest that central banks can affect the inflation rate by controlling the interest rate they charge other banks for credit. In Western economies, central banks have been remarkably effective at maintaining price stability during the past decades. The traditional monetarist theory explaining this is that lower interest rates affect people's willingness to take loans, which causes the quantity of money to increase, which causes inflation. However, more recent research (among for example advocates of Modern Monetary Theory) suggests that the central bank has hardly any control over the "money supply"[2676] and that the factors that connect central bank interest rates and inflation (the rise in the overall price level) are instead aggregate supply and demand. Even if the quantity of money often also increased in conjunction with a faster rising price level, this does not mean that the quantity of money would be the cause of the prices rising. Both the quantity of money and the price level might be affected by interest rates – and these effects might be subject to different conditions. Japan is one example where the quantity of money has grown massively with no signs of inflation. The assumptions embedded in our words and expressions often lead us to assume connections with little logical integrity or empirical evidence, as explained in "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

A related example from physics is the functioning of airplane wings and sails on boats. The "lift", an approximately perpendicular force generated by airflow around a wing, has to do with a lower pressure emerging on the upper side of the wing. And a lower pressure is associated with a higher speed of airflow, as predicted by Bernoulli's principle. The "equal transit theory", the theory that the lower pressure results mainly from the air particles on the convex (upper) side having to travel a longer distance in the same time (and hence at a faster speed) to "meet" the lower-side air particles at the end of the wing, was taken for decades as an absolute truth. However, this part of the theory has been shown to be seriously flawed.[2677] In reality, the lift generated by a current and the air velocity on the upper-side of the wing are higher than the equal transit theory would predict. Also, it cannot predict why aerobatics planes can fly upside down without significantly changing the profile of their wings.

The Quantity Theory of Money for the macroeconomic mechanics of monetary policy is analogous to the "equal transit theory" for the functioning of wings and sails. It makes little sense to assume that particles on both sides of the wing would take an equal time to pass the wing: How do the particles on the one side of the wing "know"

2676 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".

2677 "How Airplanes Fly: A Physical Description of Lift: Level 3", All-star Network, 20th Jul 2012, cited 26.8.2014, http://www.allstar.fiu.edu/aero/airflylvl3.htm

what the particles on the other side are "doing"? Nothing prevents the wing from imposing different horizontal forces on the air particles on different sides of it.

Similarly, it makes little sense to assume that merely an increase in the quantity of liquid credit ("money") in existence would reduce people's desire to save and/or increase their desire to invest – especially when that additional money is accompanied by additional private debt. Just as the equal transit theory is a "non-physical theory"[2678] in that it cannot be derived from the forces exerted on individual particles, the Quantity Theory is a "non-economic theory" in that it cannot be derived from the changes in incentives for individual economic agents.

One example of ignoring a possible factor not included in the data and hence dangerously concluding unbreakable causalities from correlations is the assumption that economic growth is inherently environmentally unsustainable.[2679] As there is a strong correlation between economic growth and the use of fossil fuels as well as other kinds of environmental damage, extreme degrowth activists conclude that economic growth is the root of all evil. However, economic declines do not tend go with a matching reduction in environmental impact either. The explanation to this dilemma, suggested in this book, is that the connectedness of economic activity and environmental damage is caused by our economies' dependence on growth – and the "deprivation symptoms" of this dependence get even worse when the economy does not grow. We cannot eliminate the effects of this "dependence factor" with regression analysis, as the factor is persistently present and affecting all empirical data from the past century of Western economic development.

Yet another interesting case of rashly drawing support for a theory out of a correlation is how many economists have considered the observations "that saving rates are higher where growth is higher" (Deaton 2005, p. 2) to be support for Franco Modigliani's life-cycle theory of consumption: that wealth is mainly accumulated by people saving in their early years to be spent off in their retirement years. But the relationship between growth and saving is merely an inevitable outcome of the fact that net saving in a closed economy[2680] can only occur as real investment, the need for which strongly depends on economic growth.[2681] More on this case in footnote 697. Thomas Piketty (2013) – who calls for less attention to models and more on empirical observations, data – similarly concludes that the growth of the wealth-to-income ratio has been caused by the rich saving a bigger part of what they earn.[2682]

As an example of how causality depends on the comparison set and conditions: If we assume that we are at the zero lower bound of interest rates, we can say that wage regulation and social support prevent a deflationary chain reaction (a complete economic collapse and a massive wealth transfer from debtors to creditors), as they do currently. But if we assume that there is no zero lower bound[2683] (and no private, untaxed monopolies) and that the central bank counters any deflationary pressures by lowering interest rates, wage regulations and social support only cause higher unemployment[2684] and higher interest rates in the state of balance – and hence a higher income share of all capital.

We people also have a funny inbuilt way of thinking of causality in relation to physical force and contact. Two actions that would be logically equivalent in increasing the likelihood of something happening are seen as completely different kinds of events. For example, let's assume we have a coin standing on its edge on a table. Rolling a marble that knocks down the coin on heads is seen as causing the coin to fall on heads. But now let's assume the coin is already about to fall on heads. Stopping a rolling marble that would've prevented that coin from falling on heads is not seen as similarly causing the coin to fall on heads – despite the outcome being logically equivalent to the first case. Pushing a man in front of a train is "more" "killing" a man than pulling a rail gear that diverts the train on a track on which a man is unwittingly standing.

In his book "The Stuff of Thought," Steven Pinker (2007, p. 223-233) goes much deeper into this "force-dynamic-mindset" and the importance of whom or what is seen as the "agonist", "antagonist" or "protagonist" in an event. The moral complexities arising from this – especially how we people like to avoid the role or stamp of an "antagonist" and keep our own hands clean (of blood) regardless of probable outcomes in each case – are discussed in more detail in this book's sister, "The Guilt Economy".

In the context of our economic thinking, this human feature is likely to be linked to people's chronic inability to consider systemic causalities beyond the initial step. This makes e.g. the political left-wing focus – ineffectively – on tools like minimum wages, progressive taxes and

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2678 "Incorrect Theory #1", NASA Glenn Research Centre, cited 24.8.2014, http://www.grc.nasa.gov/WWW/k-12/airplane/wrong1.html

2679 See: "3.4.5 The Irrelevance of the 'Degrowth vs. Decoupling' Debate".

2680 See: "1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage".

2681 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

2682 See: "3.1.2.3 'Lack of Growth Increases Inequality' – Piketty's 'r>g Dilemma' Solved" and footnote 705.

2683 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

2684 See: "2.2.3.3 Wage Regulation by the Government – All or Nothing" and "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".

capital income taxation when trying to treat income differences.[2685] The intuition is that the one being charged unavoidably also ends up carrying the cost burden. This is not at all always true in markets, where prices aren't set in stone. In "ecosystems", causalities are often quite complex.[2686]

Also, we connect causality strongly with intention (Pinker 2017, p. 222). Causing something unintentionally is not "as much causing" as causing by intended action. This implies a mental connection between the "cause" of something and the "reason" for something – the fourth, "final cause" of Aristotle's four causes (the third, "efficient cause" being closest to what we nowadays call "causality"). People often confuse *causes* with *reasons*. Our tendency to personify things around us when relating to them makes us want to attribute intention, a human characteristic, to other natural objects and phenomena (like a tree, a storm, the climate change etc. ... This is called a "pathetic fallacy") and to find "reasons" for things that are not the result of the deliberate action of any agent or group of agents. The theory of "Intelligent Design" – a Christian "scientific" explanation for biodiversity – could be seen as one example of this.[2687]

In Immanuel Kant's deontological ethics, intention is the main criteria for judging an act as "good" or "bad". This intentionality is an essential part of our legal systems as well. Being found liable for a crime often requires that the prosecuted person can be shown to have had a "guilty mind" (*mens rea*) in addition to the act being classifiable as "guilty" (*actus reus*). In the justice system, this makes sense, as the rules in our society and the threats of penalties for breaching these rules essentially form an incentive system meant to increase trust and facilitate cooperation.[2688] An incentive system can at best make people do their best for an end. We wouldn't consider it a fair system where people are punished for outcomes they had no possibility of foreseeing or ones resulting mainly from bad luck.

Of course, actions that impose severe risks on others are punished – as "gross neglect". However, the trouble remains that the "mens rea" logic may encourage ignorance: People might not want to do their best to understand possible causalities. The more you know (especially of threats and risks) the more possible effects there are for which you can be considered liable. For example in the lawsuit concerning the environmental breaches of the Finnish mining company Talvivaara, the key factor determining which members of the board and management would be prosecuted was who could be shown to *have known* about the environmental problems and insufficient precautions. Another, quite questionable case example is the case where a 16-year-old youngster was deemed less liable for his lethal drunk driving, because he was spoiled by his rich parents and "[h]e never learned that sometimes you don't get your way." This "condition" that lowered his sentence into probation was named "affluenza".[2689]

A new justice system or judicial paradigm is not the subject of the Root Bug project. But instead, the diverse – and often unintuitive – environmental and social impacts of our actions are central to it. So is the question of what it means to be an "ethical" consumer/worker/manager. Dilemmas and contradictions regarding these moral issues are discussed in "The Guilt Economy".

> **"The nature of science is the accurate description, first of all. And accurate description is possibly only when the subject matter to be described is very carefully limited and restricted. In other words in situations where all the important factors are measurable." ... "But once you've done it – once all the variables in the situation are known and measurable – you can have some approximation to a truly scientific experiment. To pretend to be able to do this in human relations is absurd: Your variables are infinite. You've no real idea what they are. But that is *not* to say, in any sense whatsoever, that therapy cannot be performed." ... "I only ask of you: Don't sail on the false pretenses. Don't assume the mask of science." ... "You [psychotherapists and psychologists], if you are successful, must be artists. And an artist is a person who performs certain things skillfully, but doesn't really know how he does it." – Alan Watts, Learning the Human Game[2690]**

2685 See: "2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for nothing)".

2686 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand" and "1.1.9 Companies as Competing Organizational Forms Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

2687 Other languages cause additional confusion in this regard. For example, in Finnish, the word "syy" can mean "reason", "cause" or "fault" (and sometimes "excuse") depending on the context. See also: "7.2 The Misleading Conceptual Metaphor of Money as Items or Substance".

2688 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

2689 Gray, Madison, "The Affluenza Defense: Judge Rules Rich Kid's Rich Kid-ness Makes Him Not Liable for Deadly Drunk Driving Accident", Time Magazine, 12th Dec 2013, cited 21.12.2013, http://newsfeed.time.com/2013/12/12/the-affluenza-defense-judge-rules-rich-kids-rich-kid-ness-makes-him-not-liable-for-deadly-drunk-driving-accident/

2690 5:15->, 6:21->, 7:02-> & 7:38->, Watts, Alan, "Learning the Human Game", viewed 12.5.2014, https://www.youtube.com/watch?v=WzwiaTe5ug

6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments

> "The establishment of any new manufacture, of any new branch of commerce or of any new practice in agriculture, is always a speculation, from which the projector promises himself extraordinary profits." – Adam Smith, Wealth of Nations (1776, p. 163)

> "Perhaps there was a corn producer who wanted to hedge themselves by selling a futures contract, which you enabled by buying. You thus *increased liquidity* – finance-speak for the ability to transact easily on the market. Having worked in highly illiquid derivatives, I know the positive effects that speculators can have. Without them, a market works on 'back-to-back' matching of trades, a clunky process of trying to find an exact end-buyer for an exact end-seller, which is time consuming and expensive. By taking in trades, speculators ease that process, and improve the ability of the market to show prices (price discovery) which might be hidden in the minds of more shy players." – Brett Scott, The Heretic's Guide to Global Finance: Hacking the Future of Money (2013, p. 154)

> "Don't hate what you don't understand." – John Lennon

Alongside the "fiat money system", "fractional reserve banking"[2691] and the greedy bankers themselves, financial derivatives are a popular object of blame for the instability and fragility of the economic system. It is a common human tendency to demonize things that threaten us and that we have no stake in ourselves – it allows us to wash our own hands of guilt and avoid blame. And things that we don't understand tend to threaten us and are especially easy scapegoats for the wrongs of the world. So what are these scary "derivatives"?

The function of financial assets is to allocate risks. Most financial assets can practically be seen as forms of credit – securities promising future payments.[2692] Deposits and bonds are credit the payback value of which is predetermined – with a risk of default – the debt, or parts thereof, being left unrepaid. There are differences between bonds, especially in how they are paid back. Some (zero-coupon bonds) are paid back as a lump sum on the maturity date, in which case the interest is paid as the difference between the sum borrowed (the sum paid for the security) and promised back (the "face value" of the security). This is why the *"yields"* of financial assets – the return percentage an investor expects from them – rise when their value drops: If the issuer has to sell bonds at a lower prices (relative to face value), he practically has to pay higher interest for the credit. Others bonds include e.g. annual *coupon payments* as part of the interest.

As explained in "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks", the shareholders of a company own its equity, i.e. whatever remains of its assets after its debts have been subtracted. But individual shareholders have little influence over how the company's assets are used: A share mainly grants them a right to part of the profits that the company generates ("right to income of the thing"[2693]). Therefore, company shares (especially shares with no voting rights) could also be seen as credit the maturity value of which depends on how well the company is doing and the "coupon payments" of which – dividends – are determined by how good reinvestment opportunities it has.[2694] Theoretically, the "maturity payment" (or "face value" of the stock) would be the book value of the shares – the value of the company's remaining assets minus its liabilities – which is returned to shareholders when operations are ceased and remaining assets are sold off (liquidated). But because, in today's world, companies are highly leveraged (partly because our taxation system encourages credit finance[2695]) and because the threshold to shutting down operations tends to be fairly high, there is seldom any equity left after a bankruptcy. Instead, companies more often default on parts of their debts as well.

Selling short – "shorting", for short – a share or other financial asset means selling one that one doesn't own. Practically this is issuing credit – taking on debt – with similar terms that the named stock has. If company A has for example 1 million shares outstanding in its books, there can be 3 million shares traded on the market if other investors and institutions have shorted 2 million of those shares. The 2 million shorters have a similar liability to the

2691 See: "1.2 Credit, Money and Banking".

2692 See: "1.2.2 Credit – Delayed Payment Granting Chronological Flexibility".
2693 See: "1.1.7 Ownership as a Bundle of Rights".
2694 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
2695 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

shareholders as the company does. Effectively, we could think of all companies as having shorted their own shares – when being founded and when new equity is raised .

Short selling (stocks or any financial instruments) is one of the few financial activities that can "multiply" the total volatility (and hence risks) in the financial market, taking real market volatility as given. Any investment – real or financial – can of course be *leveraged* by financing it using more debt finance from some other party, but this just reallocates the risks of the investments between debt and equity.[2696] The total risks of the underlying investment don't change and new volatility is not created. Similarly, issuing derivatives to hedge against the risks involved in real assets one is holding (or is certainly going to produce) only transfer the existing risk to the buyer of the derivative.

But when derivatives are issued (or e.g. stocks are sold) "short", new volatility is created on both ends of the deal. When we have a bigger proportion of credits and debts tied to the value of individual resources – instead of having preset returns – large transfers of wealth can occur with smaller real market shifts. Consider for example the extreme, hypothetical case, where most debts and credits would be tied to the stock of a single company instead the general price index through a currency with the promise of stable inflation[2697] – e.g. we'd have all our savings and mortgages as Nokia shares instead of as dollars. If that company happened to go bankrupt, all credits and liabilities in the economy would be annulled. If it made one big contract – or these was even speculation thereof – they could be doubled. Of course, even in this case, there is no risk of *net* loss or gain of wealth, as any changes compensate each other. One investor's gain is another's loss.

Futures contracts – "futures" for short – are promises to make a transaction in the future, usually buying a fixed amount of a commodity at a specified date. Futures are practically two-way credit contracts. The holder of the future owes the issuer money (i.e. a sum of credit tied to the general price level) and the issuer owes the holder the specified resource – or practically a sum tied to the market value of the specific resource, as the resource, in the case of many investors, is often resold on the market immediately. Forward contracts are similar, but are not exchange-traded, are not standardized for specific commodities and are not "margined" (traders of futures must post a sum to the exchange to cover for possible losses), which increases their credit risks.

2696 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
2697 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

Futures and forwards are important for commodity producers – and big scale users – for *hedging*[2698 2699] against risks of price fluctuations. For example the price elasticity of the demand for food commodities is very low and therefore even a slight oversupply can cause prices to drop dramatically, but, also, relatively small losses of crops can cause prices to soar.[2700] The same applies to many other basic commodities like minerals as well as energy. Even if their demand wouldn't be quite as price inelastic, their supply can be almost as inelastic in the short run, as e.g. finding and opening new mining prospects is a slow process.

A producer can insure the profitability of his investments by selling part of his produce (e.g. crops or mined ore) beforehand by issuing futures. He is therefore guaranteed a predetermined price for part of his produce, avoiding possible losses – but also giving up potential gains in the market price rising. If some big users of the commodity want to hedge their material costs, they can do so by buying the issued futures. Alternatively the risks can be carried and diversified by the financial market: Investors and asset managers like hedge funds can include the futures in their investment portfolios.

"Swaps" are like futures, but for a series of transactions or streams of income instead of a single one. You can e.g. swap a variable energy bill for a pre-determined one by buying a swap from someone willing to carry the price fluctuations. Another example are interest rate swaps, with which one can protect oneself against the risks of changing interest rates. The interest rate derivatives market and currency derivatives market are the two biggest derivatives markets globally. (Scott 2013, p. 71)

Options are (surprise, surprise) optional futures contracts: The holder can choose whether to *exercise* the option or not. These are most commonly issued for company stock. A *put option* gives the right to sell the underlying asset at a given price to the issuer and a *call option* gives the right to buy at a given price from the issuer. Often, however, the exerciser of a stock option sells the bought stock after exercising the option and therefore an option can be seen as a promise by the issuer to pay the holder the price difference between the "strike price" of the option and the market price at execution if the stock price is higher. A "European option" can only be executed at a given date – like a futures contract – while an "American option"

2698 "A Beginner's Guide To Hedging", Investopedia, 1.4.2014, http://www.investopedia.com/articles/basics/03/080103.asp
2699 A hedge is "making an investment to reduce the risk of adverse price movements in an asset."
– "Hedge", definition, Investopedia, cited 1.4.2014, http://www.investopedia.com/terms/h/hedge.asp
2700 See: "3.3.2 Famines and Overpopulation".

can be called at any time before a given date of maturity. There are many different kinds of "exotic" options with more complex payback structures.

A major function of options is to limit the downside risks of investment portfolios. And that's exactly why they are problematic if they make up a big part of an executive's reward system – the use for which they are probably most famous. A limited downside strongly encourages taking big risks – e.g. high leverage in investment banking. This in itself is no reason to demonize options – though it is a good reason for shareholders and boards of directors to rethink whether it would be wiser to increase increase the share of equity compensation (shares) in management incentive structures, at least in the case of CEOs.[2701]

Overall, the whole financial market is essentially about pricing and trading risks! Derivatives (like simpler financial instruments) exist to move risks onto parties that can better afford to carry them and are willing to do so for the potential of bigger profits. They allow diversifying risks more efficiently and eliminating some risks by hedging them against each other. Of course, they also allow concentrating risks on some parties. However, there is nothing wrong with this as long as the investors and financial institutions trading in derivatives carry their own risks and don't deceive anyone else by e.g. hiding them or the risks involved.

One cannot really ban derivatives, as a similar outcome can always be achieved with other arrangements. Such attempts would likely just move such financial structuring further "underground". And why shouldn't people and institutions be allowed to make the sorts of credit deals, insurances or "bets" they want – as long as they carry the risks themselves and participants know what they're getting into? The risks of the underlying real economy remain the same regardless what structures people choose to build on top of them. The results of football matches don't change according to bets made on them – unless there is some illegal match fixing going on, or if the players themselves start betting. If players fear losing their houses due to the result of a match, this of course starts affecting their play. Speculation only causes damage to the real economy when there are self-reinforcing feedback mechanisms causing uncertainty in the real economy[2702] – or when the risks can be rolled onto others.[2703]

Of course, when large investors get the chance to directly limit supply in the underlying real markets ("real world match fixing"), the results can be catastrophic and extremely unfair.[2704] But the fact that derivatives are used to increase the amount of profits that can be extracted with such market cartelization and sabotage does not make derivatives themselves evil. Markets only work fairly and efficiently when no single player can affect market prices significantly[2705] and that requires preventing the emergence of monopolies and other such chances of extortion and sabotage.

"Rent-seeking" and unproductive, "distributive" activities are discussed further in "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

2701 See: "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power".

2702 See: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2703 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".

2704 Taibbi, Matt, "The Vampire Squid Strikes Again: The Mega Banks' Most Devious Scam Yet", The Rolling Stone – Politics, 14th Feb 2014, cited 23.2.2014, http://www.rollingstone.com/politics/news/the-vampire-squid-strikes-again-the-mega-banks-most-devious-scam-yet-20140212?utm_source=theatlantic&utm_medium=facebook&utm_campaign=partner

2705 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

6.2 APPENDICES GOING DEEPER INTO ISSUES

6.2.1 Appendix 2.1: All the Different Causes of Monetary Saving – and Dealing with Them

"When analytic thought, the knife, is applied to experience, something is always killed in the process." – Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance (2006)

As explained in "1.3.3 The Circular Flow of Income – Consumption, Saving and Investing", "liquidity traps," recessions and depressions are a result of aggregate supply (of labor and capital) persistently exceeding demand and growing unemployment and involuntary debt are the result of other people holding on to monetary assets – credit – excessively. So the next logical question to ask is, why would someone save without investing the savings in real assets? Why would someone pile up more and more money or government bonds? Why don't people just voluntarily choose to work less, and hence earn less, when they don't want to spend or invest?

Jean-Baptiste Say, who influenced economists of the 19th, was of the opinion that no sensible man hoards up cash, but spends or invests it sooner rather than later – because "the value of money is perishable".

> "When the producer has put the finishing hand to his product, he is most anxious to sell it immediately, lest its value should diminish in his hands. Nor is he less anxious to dispose of the money he may get for it; **for the value of money is also perishable.**" (Say 1803, p. 57)

And the pitfall of Say's conclusion is precisely that the assumption of the perishability of the value of money does not always apply – not in our current credit money system, and even less with a gold standard or other commodity money of inelastic supply. Individuals can also use money to "store value"[2706], and this can start hampering its function in facilitating trade.

Mainstream economics, focusing on maintaining **"sufficient aggregate demand" (i.e. overall consumption)**[2707] to avoid unemployment, seems to assume that the only reason people don't spend or invest is uncertainty about the future (their future income) resulting from a supply or demand shock or e.g. a credit crisis, and that, when this cause of uncertainty is removed, the underlying demand for additional products and services would grow insatiably. The author would agree that most people are insatiable and "greedy" in the sense that they will always get used to whatever the state of affairs is and start striving for something even better.[2708] But it would be a rash conclusion that "better" always means more products, services and material assets. Even the neoclassical growth model accepts that leisure has utility as well and that the marginal utility of both leisure and purchasing power tend to be declining.[2709] So, when productivity increases and living standards rise, "better" can mean more free time – or something that is supported more by free time than goods or services.

Also, this assumption of people maximizing utility in their lives is a very simplified assumption of human behavior ignoring tendencies to deontological and virtue ethics[2710] – acting rather according to heuristics (rules of thumb) or instinctive habits, or avoiding negative associations and guilt, or maintaining integrity with their "virtues", instead of attempting to "optimize outcomes."

And even to the extent that people do make decisions according to expected outcomes (consequentialistically), people can play many different kinds of "Games" in their lives.[2711]

Of course, the major "Game" in some people's lives is the gathering of material wealth and for example in American (U.S.) culture, the word "success" is often considered almost synonymous with the word "wealth" – successful

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2706 See: "1.2.1 Money Facilitates Trade through Liquidity and Broad Acceptability".

2707 See: "2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder".

2708 See: "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?" and "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

2709 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

2710 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2711 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".

= wealthy.[2712] But this cannot be assumed to apply for everyone. Also, for some, "wealth" does not mean material property, but simply having more money – and other forms of financial assets – and thus more economic freedom and security, or just a "bigger score" in their bank account. In the U.S., people are often discussed in terms of their "net worth" (wealth) or "how much they make" (income) – not so much by their Porsches or Pradas.

As examples of Games that can fairly easily be split into consumption of income and leisure, someone's passion might be gathering travel experiences, which does require spending, but the value of a trip does not automatically increase with the amount of money spent – and the more time there is to travel, the better. Another's passion is to make music, which only costs the instruments, other equipment and facilities to do. Even though better equipment allows new kinds of things, her primary measure of progress is not how expensive equipment she can buy, but how well she learns to use them and how much time she gets to spend playing.

Goal-oriented models (including the praxeology of Austrian economics) omit many ways in which people assign value to abstract things – also completely irrationally. One partly rational abstract thing is economic security. Increased uncertainty of future income decreases spending by giving a value to savings with no functional value.[2713] This is still rather easy to integrate into the model. However, the above described example of some people gathering wealth or money purely as a Game in itself – a measure of their personal "success" in life – is hard to include e.g. in the neoclassical model as it gives value to savings beyond functional and security utility. Practically, this would mean that there are agents in the system that act like companies – aim to maximize their profits – but do not pay dividends on to "regular" consumer agents who would only value them for their purchasing power in consumer goods with use value.

Even if the person gave savings no inherent value, not all passions call for increased consumption of spare time either – some people's passion actually *is* their job! The notion that work (as in productive activity) can have positive utility in itself (negative cost)[2714], slaps Marx's or even Smith's labor theories of value[2715] around quite a bit.

Gathering social capital – such as fame or popularity – is an important game in many people's lives. Other people strive for increased intellectual capital – understanding the world through different models or being a "connoisseur" in a specific field – which doesn't cause an insatiable need for products and services. These are two examples that might be promoted by career progress and thus a person might work more even if she had no utility for the additional income from that work.

Economics has not been completely ignorant on this front. J. M. Keynes himself, in his "General Theory", makes quite an extensive list of possible "subjective effects on propensity to consume":

> "There are, in general, eight main motives or objects of a subjective character which lead individuals to refrain from spending out of their incomes:
>
> (i) To build up a reserve against unforeseen contingencies;
> (ii) To provide for an anticipated future relation between the income and the needs of the individual or his family different from that which exists in the present, as, for example, in relation to old age, family education, or the maintenance of dependents;
> (iii) To enjoy interest and appreciation, i.e. because a larger real consumption at a later date is preferred to a smaller immediate consumption;
> (iv) To enjoy a gradually increasing expenditure, since it gratifies a common instinct to look forward to a gradually improving standard of life rather than the contrary, even though the capacity for enjoyment may be diminishing;
> (v) To enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action;
> (vi) To secure a masse de manoeuvre to carry out speculative or business projects;
> (vii) To bequeath a fortune;
> (viii) To satisfy pure miserliness, i.e. unreasonable but insistent inhibitions against acts of expenditure as such.
>
> These eight motives might be called the motives of Precaution, Foresight, Calculation, Improvement, Independence, Enterprise, Pride and Avarice; and we could also draw up a corresponding list of motives to consumption such as Enjoyment, Short sightedness, Generosity, Miscalculation, Ostentation and Extravagance." (Keynes 1936, p. 73-74)

In the listing/framework below, I've added a few possible reasons arising with the development of Western living standards and new moral paradigms and grouped all of these reasons into four categories:

2712 For further discussion on "wealth", see: "1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'".
2713 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?".
2714 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units" and "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
2715 See: "Sidenote Box 113A: Objective Value Theories and Morality".

- A: reasons to accumulate monetary assets or factors affecting both earning and spending,
- B: reasons why a person cannot or does not want to reduce her earnings regardless of a reduced need for income,
- C: reasons why a person is unwilling to increase her spending regardless of income, and
- D: reasons not to invest existing savings into real assets.

An increase in monetary saving can be caused by either A factors alone or a combination of B, C and D factors. Note that all B, C and D factors do not need to be "solved" (extinguished or countered) for an individual simultaneously to prevent excessive monetary saving – it suffices to "solve" all the factors either in B, C or D. Earning more is not a problem if the earnings are spent. Spending less is not a problem if the person also earns less. Saving (earning more than one spends) is not a problem if the savings are invested. Monetary saving by some is also not a systemic problem, as long as it can be kept in balance with the amount that other people want to be in debt.[2716]

A. REASONS TO GATHER MONETARY ASSETS (OR OBSTACLES TO BOTH EARNING LESS AND SPENDING MORE)

1. The **Profitability (vs. Time Preference) Factor:** (Keynes's "Calculation" and "Improvement") Many people's main reason for gathering wealth is attaining passive capital income. Due to high interest rates and low yield in other high-risk investment options, **money is a relatively profitable form of investment**. Thus, if your "internal discounting interest rate"[2717] is lower than the market interest rate, it is worth earning your money as early as possible regardless of when you want to spend it, even without any other investment options than bank deposits or government bonds.

2. **Minimum Equity Factor:** (Keynes's "Enterprise") One might need to gather a large amount of equity capital[2718] before making an investment (e.g. in a startup company) that is too risky or non-liquidable to be financeable on credit.

3. **The Security Factor:** (Keynes's "Precaution") One wants to guarantee one's economic security by keeping a savings buffer and – due to one's risk-averseness – chooses to keep these savings as cash. This need is increased by a bigger risk of large, permanent changes in one's income – for example the threat of long-term unemployment.

4. **The Freedom Factor:** (Keynes's "Independence") They prefer to have more options and possibilities in the future (positive freedom) – also, e.g. make themselves less dependent on a specific job in order to improve their negotiation positions in employment contracts – but might never end up using the possibilities (before their retirement) even if the saving had a cost to them.

5. **The Score Factor:** (related to Keynes's "Pride" and "Avarice") Saving up money is a game in itself or a part of e.g. a social status Game. Some people don't care much for material wealth, because they have no functional or experiential[2719] use for it nor are interested in flashing their affluence to others and don't want the stress over taking care of it and worrying over losing it. Yet it is easy to adopt money as a score that measures your successfulness in your life, your career or simply individual bargains you are able to strike. Money easily becomes a motivating score as it is linked to many other Games in one's life and provides a clear sense of progress and control.[2720] Also research shows this human tendency for "mindless accumulation."[2721]

Scrooge McDuck is a classic character portraying a person playing "the money game". Scrooge however, also takes risks and invests, whereas a risk averse optimizer can get tremendous kicks out of managing to save up a yet bigger number on his account – without any intention to spend or invest it. What further makes this game more enticing is the added peace of mind due to income security (see: A3: The Security Factor). Henry George's theory was that a big part of man's insatiable yearning for money is sparked by *fear of deprivation* – economic insecurity. (George 1883, p. 103)[2722]

One interesting implication of this is that your total

2716 See: "1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous".
2717 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".
2718 See: "1.3.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
2719 See: "6.1.2 Appendix 1.2: Different Types of Value Products Provide".
2720 See: "6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness".
2721 Richtel, Matt, "You Can't Take It With You, but You Still Want More", New York Times, 4th Jan 2014, cited 7.1.2014, http://www.nytimes.com/2014/01/05/business/you-cant-take-it-with-you-but-you-still-want-more.html
2722 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free"

propensity to save might actually increase with your income. In this case, your marginal propensity to save is not only growing with your income, but might be bigger than 100 % – the "income effect" on your demand for all goods in total might be negative. Earning more might increase your determination to save up even more – success increases your motivation to play the saving game. If you watch any motivational videos by for example "Dr. John Demartini"[2723] [2724] and many other life coaches, you'll soon figure out how easy it is to get people hooked on this inherent value of gathering wealth.

On the other hand, losing a big sum of money or income might make you lose your motivation in the money saving game and start to spend more carelessly – in some cases, cause a "full tilt", as poker players call it. E.g. moving or travelling to a country with higher living expenses can cause one to give up on part of one's emotional attachment to one's savings (as an emotional defense mechanism against the frustration of losing one's hard-earned savings).

6. **Sense of Responsibility Factor:** One wants to "first work, then play" because the combination of hardworkingness and frugality constitute a significant part of one's definition of being "responsible". This is an example of how deontological and virtue ethics affects human behavior.[2725] Saving and frugality are simply "good" courses of action and admirable characteristics (virtues) of an individual. This isn't quite the same as "time preference" (see: "A1: Profitability Factor"), as in preferring future goods to current goods, but if this were to be simplified to fit into the traditional consequentialist economic models, the Responsibility Factor can be thought to turn one's "behaviorist" internal discounting rate (time preference) negative!

   The "work first, then play" moral is one that most parents in the Western world try to incept into their children's heads early on. And also those of us with naturally a more conscientious tendency feel more at ease when we don't have responsibilities piled up. Spending and being in debt just *feel* bad! Doing your duties first makes leisure and consuming products and services more enjoyable. When you ask people why they save, many reply that they feel more at ease and sleep better when they have a few thousand extra on their account. This can be seen as combination of this Sense of Responsibility Factor (A6) and the Security Factor (A3). Even people who prefer additional free time to products and services rather postpone that free time to the future by saving. Who hasn't at some point dreamed of retiring at 40 (which might not be a very wise dream to attempt to realize[2726])?

   People who hate their jobs are often even more eager to try to retire as early as possible – get all the nasty work out of the way – even if their employer gave them the option of working less (see: B1: The No-Choice Factor). This is quite ironic as loving one's job can have a similar effect of increasing one's will to work earlier (see: B2: The Passion Factor). In many cases, this can become a bit of a guilt cycle comparable to anorexia: one might develop an emotional attachment to money, which to one symbolizes freedom from work. Thus, the idea of spending off all the hard earned money can become even more difficult than the idea of struggling in work life for another 20 years. Thus, this moral is easily a big motivator for playing the money gathering game (see: A5: The Score Factor). It is noteworthy that wealth for e.g. retirement can also be gathered as real economy wealth such as company stocks or by for example buying or building a big house, paying off the mortgage while working and then remortgaging or selling it when one retire (see: D factors).

7. **The Malice Factor:** One objects to the whole economic system and don't give sh*t about wealth in any form. In this case one might either (a) burn all the money one earns out of pure malice towards "capitalism" (b) or just store it as cash out of use without letting it affect one's will to earn more in which case it is practically out of use.

8. **The Life Situation Factor:** One's life situation inevitably has an effect on one's propensity to save money and to take loans regardless of one's income. Establishing a family might spur bigger real asset investments such as a bigger house or a bigger car. This might at first cause an increase in total saving (for the mortgage deposits). On the other hand, the need to support children adds to expenses that don't accumulate wealth (more food, diapers, health care, babysitters etc.). This is related to the Minimum Equity Factor (A2), but differs in that fluctuations in personal income and expenditures could (assuming no significant feeling of guilt related to debt, which

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2723 "Dr John Demartini - The value of money", presentation, cited 5.11.2013, http://www.youtube.com/watch?v=5gxmuaGSWd4

2724 "Dr John Demartini: Mastery and Truth of Money (Part I)", web interview, cited 5.11.2013, http://www.youtube.com/watch?v=KEF2p-2GxqrQ

2725 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2726 See: "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".

is part of the A6: Sense of Responsibility Factor) more easily be balanced by borrowing against one's real assets (e.g. extending one's mortgage payments or taking a reverse mortgage).

B. OBSTACLES TO EARNING LESS

1. The No Choice Factor: Because it is not profitable for one's employer to share work, **one doesn't have the realistically safe option to earn less,** even when one does not see additional consumption worth the additional work and has no willingness to invest.

2. The Passion Factor: Meaning that one gets paid for doing what one is passionate about and would do anyways. There is nothing wrong with liking to do something that you are very good at and that others need and getting paid for it. Being a popular rock star or passionate about a programming language in high demand are both examples of this.

3. Capital **Income Factor:** One gets significant amounts of passive capital income from one's investments or monetary savings. Neither is their anything wrong with getting money for having made investments that allow producing lots of value to others.

C. OBSTACLES TO INCREASING SPENDING

1. The Saturation Factor: **One's material and service needs are saturated,** and one pursues passions where additional wealth produces no additional benefit. Demand, of course, is not a 1 or a 0 for an individual, but a function of price.[2727] "Saturation" thus means that the consumer's total demand curve becomes steeper (very low price elasticity of one's "personal demand curves") and thus consumption does not increase notably with goods becoming cheaper or real income rising.

2. The DIY Factor: **One likes doing things oneself** rather than outsourcing them (like cleaning, gardening, babysitting) even if doing so was less "efficient" in terms of time spent. This might be because one enjoys such specific tasks or because one generally values versatility and having multiple "Games" in one's life.[2728]

3. **The Guilt Factor:** (Related to Keynes's Avarice) **One feels guilty about spending or investing** in material property in general. This is practically just an austerity ethic – the other half of the Sense of Responsibility Factor (A5) – existing without a significant work ethic. This guilt might be affected by their **religious morals**, a **fear of jealousy** of acquaintances (and of being rejected by one's social group) or environmentalist ideologies demonizing consumerism and materialism. "Consumption" has become a word with a very negative taint, further feeding our Protestant work ethic, where spending money is inherently "bad".[2729]

D. OBSTACLES TO INVESTING

1. **The Risk-Averseness Factor:** The cost one attributes to risk is much higher than expected additional profit (compared to the risk-free option) from real or risk-bearing assets.[2730]

2. **The Laziness Factor:** The person does not enjoy investing and considers the comparison of investment opportunities (or even finding an asset manager) not worth the effort.

3. **The Anti-Capitalist Factor:** The ideas of "investing", "owning productive assets", "gambling with stocks" or striving for a "profit" in general are against the person's value vocabulary and have a negative taint.

4. **The Liquidity Preference Factor:** One is uncertain about one's expenses in the near future and wants keep savings easily available for use (related to A3: The Security Factor).

Of course this list might not be exhaustive. We'd be interested in hearing about other possible reasons for saving and obstacles to investing, as this will allow building even more realistic simulation models where economic policies can be tested for functioning with various hypothetical kinds of agents.

In light of the latest research:

2727 See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2728 See: "1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress".

2729 See: "1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units".

2730 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

- Income security and hence spending/saving behavior is dependent more on one's expected future long-term real income and established spending habits, than short-term variations in one's income[2731] (Meghir, 2004, p. 4).

- Propensity to save – what portion of your income is saved – is likely to increase with economic insecurity (uncertainty of long-term income).

- The absence of the option to (or costs and risks of choosing to) work less is likely to increase monetary saving.

- Saving behavior is affected by other factors that vary between individuals and life situations.

Additionally the tendency to save *as money* – risk-free credit – is affected by how much of savings are invested and how early, which is affected by:

- The profitability of holding risk-free credit (money and bonds) compared to investing in real assets – i.e. the market interest rate versus the "natural rate of interest".[2732]

- The person's averseness to risk.

- The person's need for liquidity, which is affected e.g. by the person's life situation (Keynes's "liquidity preference").

Looking back on the list, the problem is all the other causes of saving than for the preparation for future investment (Factor A2, "Minimum Equity Factor") and a need to balance short-term income fluctuations (Factor A8, "Life Situation Factor"). Many Austrian economists and others would argue that personal security is a valid and even desirable reason for saving, but this, too, can be done as real assets (which Austrian economics insists commodity money is[2733]). With any form of "contractual currency"[2734] it is not possible for all agents to increase their monetary savings balances simultaneously – or even for their combined savings to increase in net – because credits have to equal debts. Although an individual can increase her income security by saving money,[2735] an increased amount of monetary savings essentially means more credit relations – more debt[2736] – and only makes the system more unstable and volatile, decreasing overall income security.[2737]

Most of the causes for excessive saving can be combatted by affecting the relative profitability of monetary saving. This is what monetary policies already do: All that is required is to keep inflation stable by controlling interest rates.[2738] Even in cases A2 and A8 that require significant sums to be gathered, interest rates can encourage people to take a loan earlier to complete the investments – or spend the desired free time – earlier. However, it's good to remember that many of these causes of saving are not very "rational" – based on logical calculations aimed at maximizing outcomes – and thus might require lower real interest rates to keep inflation stable than rational economic theories would predict.

Factors influenced by morality (most notably A4, A5, A6, A7, C3 and D3) could also be slightly alleviated by educating people better about what money and debt are, relieving people's emotional fixations about these things (such as guilt about spending or having debt) and thus revising our economic moral rules of thumb about what is considered economically "responsible" behavior. This book and it's sister, "The Guilt Economy – Our Medieval Money Morals", attempt raise such refreshing ethical dialogue. Such discourse, however, is a slow process and we cannot expect the feelings guiding individual agents' behavior to change very fast. To quote the trailer of the Inception movie – ideas are the most resilient parasites. That is why we have to implement policies that take into account the existence of these kinds of behavioral quirks resulting from human morality.

The biggest problem here is that monetary policies fail due to the zero lower bound problem as was explained under "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

The Factors most difficult to affect with pure interest rates are the Security Factor (A3), the Malice Factor (A7), the No Choice Factor (B1) and the Passion Factor (B2). These – especially the Security Factor – are therefore probably also a major reason why Keynes saw fiscal stimulus as necessary in the case of bigger shocks (Keynes 1936, p. 104). Also all the C factors (reasons not to spend more) might be less influenceable, but these would not be problems if individuals had no obstacles to also working (and thereby earning) less (B factors).

2731 Milton Friedman's permanent income hypothesis (PIH) and "habit formation", see: "3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence".

2732 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2733 See: "2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives".

2734 See: "1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral".

2735 See: "Sidenote Box 118D: Does Capital Provide Economic Security and Freedom?".

2736 See: "1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)".

2737 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyperinflation Risks and Guarantee Jobs".

2738 See: "2.2.5.2 Monetary Policy – You Can Pretend It's about the Money Supply".

In the case of Factor A7, the Malice Factor, this disappearance of money from the system reduces the central bank's liabilities, which are backed by government debt. These imbalances can be corrected by removing these liabilities from the balance sheet and thus destroying cash ends up being the same as paying taxes to the government. In case the exact amount of destroyed cash is hard to verify, significant imbalances are eventually eaten up by inflation or renewal of the design of notes and coins used, which usually happens every one or two decades or so.[2739]

The No Choice Factor (B1) is the one that monetary policies are unable to tackle. This can only be solved by making it legal, socially acceptable and profitable for employers to share work at least to the extent where they'd always want to give their employees the choice of working less and encourage them to do so when they have more suitable employees on the market they could hire.[2740]

The Security Factor (A3) can be eliminated for the most part if we make people's total access to earning opportunities in the long-term less uncertain and independent of total aggregate demand, demand for specific goods or the successfulness of a specific employer. This could be achieved by making sharing work so profitable that it also becomes the preferred option for employers for reducing purchased labor – instead of firing individuals – and that extended unemployment makes one a constantly cheaper recruit for companies,[2741] as well as by securing basic vitalities.[2742]

However, it is not necessary to eliminate the Security Factor (A3) altogether, as long as the Profitability Factor (A1) is dealt with effectively, because also real assets and productively risk-bearing assets – houses, vehicles, company shares etc. – can provide economic security.

This leaves us with the Passion Factor (B2). However, if a person really does what he does for the fun of it and not the money, it is unlikely that he would be very risk-averse either (D1) and with larger amounts of wealth, investment choices can be outsourced to an asset manager. And most risk-averseness can be overcome with negative enough interest rates: The possibility of making a loss does not look so daunting anymore when compared with the certainty of making e.g. a 5 % certain loss annually due to a -5 % interest rate.

One of the most challenging combinations is the Passion Factor (B2), the Guilt Factor (C3) and The Anti-Capitalist Factor (D3). With the rise in productivity and thereby living standards as well as growing antipathies towards "consumerism" (spending money) and "speculation" (investment), the frequency of such a combination is likely to increase. However, negative enough interest rates can encourage these anti-capitalists to rather donate (which might sound less evil than "invest") their wealth to a cause they see worthy rather than hoard it up in ever-increasing amounts.

Mainstream economics[2743] recognizes hardly any of the C Factors: People are expected to always be willing to spend more and more as long as uncertainty of others' doing so (A3) is reduced. It largely omits the possibility of the marginal utility of free time rising.[2744] Also, it often simultaneously assumes that a human being is the unit of labor (in e.g. its pursuit to close "output gaps" and to increase employment by increasing total demand for labor[2745]) and that people would have the option of working less if they wanted to (Korkman 2012, p. 131-132)[2746] – which in reality, many of them don't (factor B1).

To sum up, what does the current economic system need to become self-stabilizing, fair and adjustable to people's needs as well as growth-independent?

- Most people need to have the option of working less in the mid-term (1-5 years' time span).
- Removing the fear of a complete, long-term loss of income – unemployment – due to demand changes.
- There needs to be the possibility of making real interest rates sufficiently negative.

2739 Of course, if cash is eliminated, this is not an issue: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

2740 See: "4.1 Maximizing Flexibility to Eliminate Labor Market Mismatches and Increase Adaptability".

2741 See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility", "4.1.1.2 Mid-term Flexibility (1-5 years' Scale) Is What's Relevant", and "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free".

2742 See: "4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free" and "3.2.5 The Demographic Challenge of the Aging Population – Retirement as We Know It Is Outdated".

2743 See: "2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder".

2744 See: "Sidenote Box 215A: The Neoclassical Growth Model and Utility".

2745 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!".

2746 "In a free society citizens can decide for themselves whether they want to get an education and work and how much. Whoever wants to "downshift" and work less, let him, as long as he negotiates with his emlployer over the compensation of his reduced work effort."... "Citizens and the society can choose to reduce working and give up economic growth." (Korkman 2012, p. 131 & 132, freely translated from Finnish)

More on the structure of the Root Bug hypothesis in "2.3.5 Structure of the Root Bug Hypothesis" and details on the implementation of the solutions in "4 How Could The Root Bug be Fixed".

6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model

The following is an example of a more competitive taxation model that would not hamper growth, but make the system growth independent and promote progress towards an environmentally sustainable economy.

Income tax to employee:

None.

Payroll taxes (i.e. "income taxes" paid by employer):

Constant progression of 1 percentage-point per 500 e after 15 000 e of employee total income (including capital income), up to 100 % (fixed rate from 65 000 e). No fixed costs per employee or incentives (e.g. tax exemptions) to create employee benefits. The lower limit will be adjusted annually according to inflation. The progression rate will be adjusted according to increases in overall productivity. Years with income of less than 15 000 allow that amount of additional tax-free income for future years (so as to facilitate work sharing through sabbaticals). Income above 65 000 e might also lower the starting point of tax progression for future years (eliminate the tax-free bracket).

Corporate tax (on profits):

None.

Capital Income Tax:

Flat 50 % of capital income after an annual "inflation deduction" 5 % of total investments. This excludes rents for apartments and facilities in buildings for which the land tax and property tax on buildings have been paid. Investment losses are deductible normally from e.g. the past five years. This needs to apply to interest, dividends and divestment profits from all assets within the country – even one's paid abroad. Otherwise it allows tax evasion by paying them to a country emphasizing the corporate tax over capital income taxes.

"Inflation tax" (on cash):

A 6 % target inflation rate.[2747]

Insurance fee on government-guaranteed bank deposits:

2747 See: "4.2.3.1 'Inflation Tax' Revenues – Negative Interest on Government Debt".

3 % of the deposit's nominal value before the possible capital income taxes.[2748]

Land tax:

10 % of the market value of land – i.e. the location value of all real estate (the market value of the whole real estate minus replacement costs).[2749] Possibly higher for landfills, mining and other activities with long-term potential for environmental damage and other externality effects. Such risky activities would also require land ownership (not to be allowed on rent), in order to incentivize maximizing residual value of the land and hence avoiding damage to the resources and the environment.

Property tax on buildings:

1 % of market value. Charged rents are exempted from VAT % and Capital Income Tax. These taxes are replaced with this property tax on buildings so that everyone pays the same tax for their living (or business facilities) regardless of whether they own the building themselves or not. Currently living on rent is subject to the capital income tax while living in one's own apartment is not, which is an unnecessary (and flexibility restricting[2750]) subsidy to homeownership.

Fossil Fuels:

Increasing (exponentially, i.e. at a constant percentage rate) from e.g. 0.5 e to 10 e per kg of carbon content during ten years, ending in a complete ban in use for energy production, fuel and materials (research use allowed with the remaining high tax rate). Applies to oil, fossil coal, natural gas, peat and other non-renewable (or very slowly renewable) combustible natural resources. Note that also land taxation of mining sites increases the costs of fossil fuel production and use.[2751]

Nuclear power:

Uranium is taxed with land taxation and as auctioned mining permits (as with minerals and other natural resources). Nuclear plants are required to pay for a privately funded, broadly diversified insurance plan that continuously assesses the risks involved in each plant, encouraging them to keep their risks under control to keep insurance payments down. Storage of radioactive toxic waste is a public (government-owned) industry, which has strict security requirements and is priced to make a profit (like other government monopoly industries), encourages developing extended fission technologies to use up radioactive outputs to harmless forms).[2752]

Other Natural Resources:

Setting an ecologically sustainable amount of use quotas and auctioning them on the market.[2753]

Monopoly industry profits:

The government owns companies operating in natural monopoly industries.[2754] Company management is incentivized to maximize service quality and to minimize costs. Pricing is adjusted according to profit targets, which could be e.g. a flat 50 % of revenues, but are subject to political debate in drafting annual government budgets. See "3.1.8 Public Sector Inefficiency" for how government-owned companies could work much more efficiently than they do now if they didn't have an implicit responsibility to provide "secure employment" and if they could always reduce labor "responsibly" by giving a larger number of employees more free time.

VAT/GST:

Whatever is needed to balance the budget after other revenues. If the profit targets of monopoly industries provide enough flexibility to balance budgets, there might be no need for VAT at all. As payroll taxes require progression and capital income needs to be taxed at least close to the maximum total taxation of labor (to avoid tax circumvention, see elaboration below), VAT is the one of the harmful "transaction tax" that can most easily be lowered or eliminated. Constant (multiple times per year) adjustments of VAT should be avoided to prevent unnecessary bureaucratic costs to businesses. Short-term adjustments should rather be made by adjusting the profit targets (and thereby pricing) of monopoly industry companies.

Elaboration:

In practice, finding the optimal progression rate for payroll taxes will be an iterative process that can be started with simulations, but will eventually have to be tried out in practice. The purpose is to give most employees the realistic option to work less and make employers reduce labor without involuntary firing.[2755] The "faster"

2748 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".
2749 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".
2750 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
2751 See: "3.4.1 Global Warming and Dependence on Fossil Fuels").
2752 See: "3.4.4 The Nuclear Power Case Example – Are All Risks Adequately Internalizable?".
2753 See e.g.: "3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats".
2754 See: "3.1.8 Making Natural Monopoly Industries".
2755 See: "4.1.1.3 The Objectives of Sharing Incentives: Maximize Individual Flexibility and Minimize Involuntary (Demand-Related) Layoffs".

companies start sharing work, the lower the progression and total taxation of labor (and also capital income – see below) can be.

Employees are likely to take on some of the progression of the payroll taxes onto themselves. Therefore, having some of the progression on the employee by default (e.g. splitting the tax into an income tax progressing to 25 % and payroll taxes progressing to 50 %) might – due to nominal rigidities – make it easier to draft work contracts with e.g. a fixed hourly wage.[2756]

The purpose of removing the corporate tax (and replacing it with a higher capital income tax) is to remove the "tax shield" incentive for companies to overleverage themselves. In most Western countries, interest costs are deductible in corporate taxation, but dividends are not.[2757] The other option, of course, would be to allow interest deduction only from interest revenues. But removing the corporate tax completely also has the benefit of encouraging investments into actually productive ventures compared to e.g. speculating with commodities, real estate or other assets.

Note that, due to the removal of the corporate tax, the total taxation of profits is not increased significantly from the curren rates in many countries. Total transaction taxation should be minimized! The only limit to lowering the capital income tax is that, if it is significantly lower than total taxation of labor (income tax + payroll taxes), turning wage income into dividends or interest or other forms of capital income would allow evading the labor taxation.

Interest-group-oriented people wanting to move a bigger burden of taxation on companies should remember Milton Friedman's point that business (itself) cannot be taxed,[2758] by which he meant that all taxes are finally paid by either the shareholders, employees or customers. If the general profit requirements for capital (determined by the yield of the risk-free investment option[2759]) remain the same, capital income taxation will only cause EBIT (earnings before interest and tax) requirements to rise, moving the tax onto customers and employees as higher prices and/or lower wages. The cost is shared between them depending on the price elasticities of the demand for the produced goods and the supply of needed labor. Post-tax profits would remain at the same level in the long run.

In this suggested model, there is no progression in capital income taxes although capital income affects the marginal payroll tax rates. This is because the justification for progressive taxation here is not to "transfer income" – taking money from the rich and giving it freely to the poor – but to encourage sharing earning opportunities. Capital income cannot be shared in the same way as work (as capital income is very much subject to chance and as no one should be forced to take risks if they don't want to carry them). There is therefore no need for progression there. Nevertheless, capital income is set to affect the progression of income taxes because – in order to minimize the harmful externalities of piling up earning opportunities on fewer people – we first an foremost want to encourage giving part-time work to those who have no income at all.[2760]

Accommodation is a service like any other, which would justify subjecting rents to VAT. But this would be a subsidy to people who own their own houses (and hence avoid the VAT) – and therefore it would unnecessarily incentivize homeownership. Instead of attempting to implement some kind of VAT on this "ghost rent" homeowners pay to themselves, it is easier to replace VAT on housing (and capital income taxes on rents for real estate) with the property tax on buildings. The difference is that it would be paid equally for owner-occupied and empty buildings. Hence, this tax also makes it yet more unprofitable (in addition to land taxation) to keep buildings empty, which big real estate investors and construction companies might currently be incentivized to do in order to maintain the value of the rest of their real estate portfolio.

2756 See: "4.1.2.5 Progressive Income Taxes vs. Progressive Payroll Taxes – What Does It Matter Whom the Tax Wedge Is Officially On?".

2757 See: "4.2.2 Setting a Fee on the Government Deposit Guarantee".

2758 "Can you tax business? What's business? There is no business to be taxed! There are people. Only people can pay taxes. … So when you talk about a tax on business, it has to be paid by somebody! Either it's paid by the stockholder, or it's paid by the customer or it's paid by the worker!"
– 36:08->, Friedman, Milton, "Myths that Conceal Reality", presentation, viewed 2.12.2012, http://www.youtube.com/watch?v=zNtKk2E-ml-o

2759 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2760 See: "2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest" and "4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People".

6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?

"Nor, if a tax be levied on that rent or value, this in no wise adds to the willingness of anyone to pay more for the land than before; nor does it in any way add to the ability of the owner to demand more. To suppose, in fact, that such a tax could be thrown by landowners upon tenants is to suppose that the owners of land do not now get for their land all it will bring; is to suppose that, whenever they want to, they can put up prices as they please.

This is, of course, absurd. There could be no limit whatever to prices did the fixing of them rest entirely with the seller." – Henry George, Why The Landowner Cannot Shift The Tax on Land Values (1887)

"The effect of stopping to collect any of those taxes would be that some people – most people – would have more money in their pockets. [They] could now afford to compete more to buy houses, to buy land, to rent land. So land values will increase as a consequence of a decline in other taxes. Hence, the land values increase – hence the capacity to yield public revenue on that basis increase." – David Triggs, Chairman, Henry George Foundation[2761]

"To be effective, land tax needs to be set at 6 %, paid yearly. Private ownership still applies. However, vacant or badly used locations become a cost burden to their owners. Real estate would soon be sold, rented or used for a productive purpose. And finally, land valuations must occur every year. Sharing the rising value of land with the community who helped create that value is the most effective way for governments to ensure fairness." – Real Estate 4 Ransom documentary[2762]

Would e.g. a 20 % annual land value tax (LVT) make it impossible for land ownership to be profitable? No, because land values adjust according to the tax. An LVT can theoretically be more than 100 % annually of market value, as will be explained below.

In general, an asset expected to produce an annual cash flow of P to infinity – a *perpetuity* – can be valued with the formula:

$$V = \frac{P}{r}$$

where r is the profit requirement (discounting interest rate) of the invested capital.[2763] [2764]

Here we can see, why land value taxation is essential for a working economy. Land (location) doesn't decay like other real assets and it cannot be produced more of so that the increased supply could reduce the revenues it generates below its production costs (which it doesn't have). Therefore, with negative market interest rates (causing discounting interest rates to drop close to zero), the value of untaxed land is theoretically infinite! No wonder low interest rates are blamed for real estate bubbles. Actually, it just escalates the bubble that is already there.

An asset that is taxed annually according to its market value has to produce the tax rate (t) in addition to its profit requirement to the owner (r) in order to be profitable. Hence:

$$V = \frac{P}{r + t}$$

If we expect the demand for land – i.e. the price people are willing to pay for the use of location – for land to grow annually at a steady rate (with e.g. rising real income), then the value of land would be

$$V = \frac{P_1}{r + t - dP}$$

2761 23:13->, "The Taxing Question of Land", documentary, viewed 20.1.2014, http://www.youtube.com/watch?v=1pYSsME_h7E

2762 33:08->, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://realestate4ransom.com/

2763 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2764 You can understand this in two ways. Firstly, r is practically the profit the asset needs to make annually for holding it to remain profitable, and hence $Vr = P$. Alternatively, calculating and adding up the net present values (see: "1.1.8 Labor and Capital (and Land?) – The Factors of Production") of each year's cash flow gives you the series (sum of an infinite number of terms) $P_0/(1+r)^n$, which is P_0/r.

where dP is the expected annual growth rate in the yield of the asset and P_1 is the current yield of the location.[2765]

So, assuming fairly steady demand for land (the real rents people are willing to pay for accommodation and companies for their facilities) in the future, if you tax land 10 % of land value in a situation where the discounting rate for real estate investments is around 5 %, the market value of land would drop to a third. Effectively, the state is reclaiming two-thirds of the ownership – more precisely "right to the income"[2766] – of all land. As John Stuart Mill put it in 1848:

> "The whole of [the land-tax], therefore, is not taxation, but a rent-charge, and is as if the state had retained, not a portion of the rent, but a portion of the land. It is no more a burthen on the landlord, than the share of one joint tenant is a burthen on the other." (Mill 1848, Book 5, Ch. 2, Sec. 6)

But this of course assumes that both P and r remain constant. The demand curve for land should not shift only because such a land tax is implemented, as it should not change what people are willing and able to pay for a central location – or living in general.[2767] However, if land taxation reduces the need for other taxes,[2768] it is possible that the increased purchasing power would make people ready to pay more for the location of their accommodation, increasing P.

On the other hand, landowners also currently expect land values to continue rising – not just to yield rents – and e.g. in the Helsinki metropolitan area, land prices are currently held on a rising path mainly by the construction cartel restricting supply.[2769] Therefore, when land taxes are first implemented, more lots are likely to become available for construction, increasing the supply of apartments and reducing speculative investment demand of real estate. This would, firstly, burst the bubble ("diamond bubble") maintained by the housing deficit and, secondly, would also reduce the expectations of real estate prices rising in the future, which means that rents have to cover for a bigger part of the return requirement (r) set for the investment. If we consider P to mean rents only, it raises r. It is therefore possible that implementing such a tax would initially cause real estate prices to come down much more than the previously presented equation predicts.

Essentially the LVT rate determines how many years' cash flow (including the profits derived from a possible sale) the market price of land will be. With an LVT rate of 100 %, the value will be a little (depending on the discount interest rate) less than one year's profits, with 50 % a little less than two years' profits, with 25 % a little less than four years' profits and with 200 % a little less than half a years' profits.

On the other hand, we must remember that the value of apartments and buildings are not all land value, but also include the value of the buildings, their replacement costs, for which there is no additional tax. If, without LVT, the price of an apartment is half construction cost and half location value, then a 10 % land value tax, eating away 50-66 % of the location value (a 5-10 % discount rate), would "only" cause real estate values to drop around 25-33 %, assuming no change in supply.

Because land taxation significantly affects the market prices of real estate, unpredictable *changes* in land taxation are effectively massive transfers of *wealth* – not merely income transfers. It is therefore important to implement land taxation gradually, predictably and credibly, so that the effects on land value occur more as halting the constant rise in real estate value than as a sudden crash – preventing the "diamond bubble"[2770] from blowing further instead of violently popping it.

In this perspective, it can be considered a very ingenious political maneuver to make the majority of the population incumbent landowners by implementing subsidies that make homeownership more profitable compared to living on rent – and that make high-leverage mortgages more accessible.

> "Another problem on the political front was that home ownership was so widespread in America that most families and businesses wanted the land value of their property for themselves." (Hudson 2008, p. 11)

As explained in "4.3.1.6 Case: Helsinki Metropolitan Region", e.g. in Finland there are multiple direct and indirect subsidies that make homeownership very lucrative. When most voters have something to lose in implementing land taxation, such suggestions are not going to be suggested by any major parties, no matter how well one would manage to explain the perverse situation in the construction and real estate markets: how the Finnish "real estate wealth" rests on an artificial apartment deficit

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2765 This is a direct application of the formula for the present value of a steadily growing perpetuity: $PV = D_1/(r - g)$. "Present Value of Growing Perpetuity", Financeformulas.com, cited 2.7.2013, http://www.financeformulas.net/Present_Value_of_Growing_Perpetuity.html

2766 See: "1.1.7 Ownership as a Bundle of Rights".

2767 "Nor, if a tax be levied on that rent or value, this in no wise adds to the willingness of anyone to pay more for the land than before; nor does it in any way add to the ability of the owner to demand more." (George 1887)

2768 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources".

2769 See: "4.3.1.6 Case: Helsinki Metropolitan Region".

2770 See: "4.3.1.6 Case: Helsinki Metropolitan Region".

and public accommodation support and practically forms a massive income transfer system from all rent payers and taxpayers to owners of real estate.

To explain why it is a stupid and very damaging public policy objective to maintain or maximize the *market value* of any existing type of assets, we could consider almost any other asset on the market. What if, in the mid 90s, the government had become concerned for the market value of the investments in IT (information technology) that people and companies had made – "the Finnish computer wealth" – and had wanted to prevent the market value of all the computers equipped with Pentium and 486 processors from dropping? It would've implemented measures to prevent technological progress and restrict supply to maintain computer deficits that ensure few people can afford new computers and most of them have to buy second hand ones instead. We'd now be stuck with those same CRT screens and 60 MHz processors. Allowing and facilitating investments into the development of the *real quality* of goods – e.g. as upgrades and better substitutes – and more efficient production processes requires letting the *market value*[2771] of older, obsolete assets fall.

The political challenge is similar to that with implementing carbon taxes: Companies – and thereby investment and pension funds – have significant sums invested in already found and accessed oil reserves and the decision to tax fossil fuels out of use would annihilate a lot of the value of those investments, which are currently in their balance sheets and capitalized in their stock prices.[2772] But as long as such sufficiently brutal carbon taxation is postponed, new and increasing investments into searching for new fossil fuel reserves and developing new technologies to access them will be made.[2773] Similarly, as long as land is not taxed, rents and land values will keep rising – the diamond bubble blowing up – due to both the growth of cities and speculative hoarding resulting in inefficient land use – constantly increasing the too-big-to-fail dilemma in the real estate market and raising the political threshold to start taxing land. And the solution to both cases is also similar: a gradual but credibly decisive and predictable implementation plan – starting a.s.a.p.!

However, we should also note that, without land taxation, a significant counterargument to allowing negative interest rates[2774] is the fact that it would be likely to cause real estate prices to explode.[2775] Now it seems that we have two dilemmas that solve each other! A larger increase in land taxation can be made simultaneously with the decision to eliminate cash or adopt a higher target inflation rate[2776] to offset the potential speculative jump in real estate prices. After this, land taxes can also be raised faster any time we make other decisions that are likely to drop long-term average balance interest rates. This includes implementing the fee on the government guarantee of bank deposits (as it reduces the yield of risk-free assets, deposits and bonds, relative to borrowing rates) as well as removing wage regulations and reducing the financial freedom (cash component) of social security.[2777]

So what would be an optimal, final long-term rate of land taxation?

The main purpose of land taxation was to ensure that holding land without using it for the most productive use available remains unprofitable and thereby prevent speculative hoarding and real estate bubbles. A minimum requirement for this is that the value of land according to the equation

$$V = \frac{P_1}{r + t - dP}$$

does not turn infinite. If it did, then also any terminal value[2778] after any time of holding is infinite, offsetting any finite costs of holding the land unused until then. Therefore we have to make sure that in all market conditions

$$t > dP\text{-}r$$

The long run demand curve for land in central locations (and hence the profits that can be made on land, P) can be expected to rise as general labor productivity and thereby living standards rise. If we assume a constant portion of income that people want to spend on the location of their accommodation, then the demand curve would rise at the same rate with the general real income level. However, if people have little additional material needs (the income elasticity of the demand for location is relatively high), the demand for location might rise even faster. Earlier we "guesstimated" that we'd need the possibility of interest rates to go down to at least to -6 %,[2779] and assuming fairly low risk premiums on real estate (when the market is not speculative), the discounting interest rate could get as low as -3 %. If we add an expected 2 % annual

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2771 See: "1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy".
2772 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".
2773 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".
2774 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
2775 See: "4.2.4.9 Real Estate Bubbles".
2776 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".
2777 See: "1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money", "3.1.3 ?", "2.2.3.3 Wage Regulation by the Government – All or Nothing", "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".
2778 "Terminal value", entry, Investopedia, cited 3.7.2013, http://www.investopedia.com/terms/t/terminalvalue.asp
2779 See: "4.2.1 Eliminating the Zero Lower Bound with a Higher Inflation Target or by Eliminating Cash".

productivity increase (and assume an equal increase in location demand) to that, we get 5 % as an absolute minimum annual land tax. The "Real Estate 4 Ransom", documentary by Prosper Australia arrives at suggesting a 6 % LVT although it does not present the calculations by which this figure arises.[2780]

For a large construction company, it might be profitable to make a small loss on holding its lot portfolio in order to be able to control market prices and block competition from capturing market share. But as the losses get bigger with higher LVT rates, it becomes a game-theoretically bad strategy to hold bigger portfolios than competition does.[2781] Therefore, maintaining an apartment deficit would require an actual cartel that agrees not to sell lots to new entrant construction companies and where the costs of holding excess lots are shared. It would no longer be a profitable strategy for an individual company to hang on to lots just to guarantee future market share. Especially if municipal zoning is slow-paced and lagging behind demand (meaning that small portfolios of unbuilt lots are enough to control prices), a tax higher than 10 % might be necessary.

Also, $t + r - dP$ getting even close to 0 causes speculative volatility in land prices. So, the higher the land tax rate, the less speculative in nature and less sensitive to interest rate changes the real estate market will be (in the steady state, after LVT has been rolled out). The optimal land tax rate might be somewhere between 10-20 % of market value. This would still leave some land value (from around a half to a fifth of it) for the owner and give him the incentive to take into consideration the effects of his developments on the desirability of the whole area.

One alternative is to make the LVT rate complementary to the central bank policy interest rate, so that the sum of the two remains a constant. It takes some research to determine whether this alternative would yield a less or more stable real estate market than a fixed-rate LVT would.

Finally, let's point out the difference between (1) land value taxation according to the market value of land, as explained above, and (2) *rental value taxation*. For example Singapore and Hong Kong currently tax real estate according to annual rental value: how much it can yield rent in a year. The effect of such a rental value tax (t_r) on land value is very different:

$$V = \frac{P_1(1 - t_r)}{r + dP}$$

With positive discount rates, the effect of rental value taxation on land values is more linear. Market values should drop directly in proportion to the tax rate (a 20 % tax should drop land values by 20 %). Like land value taxation, rental value taxation can reduce land speculation and increase land use efficiency by making it less profitable to hold land unused. But we can see how a rental value tax below 100 % cannot turn the rent yield of a land investment negative for the owner, as a land value tax could. V would still approach infinity when r approaches 0. Therefore, real estate would be just as bubbly and volatile with low interest rates – only with smaller absolute values.

Also, determining the rental value for owner-occupied buildings is not that straightforward. Singapore uses a capitalization rate (r) of 5 % as a rule, but interest rates can change and, even with constant interest rates, the profit requirements are always subjective for every investor[2782] and can vary for buildings in different areas and for types of real estate (e.g. according to how volatile the demand in an area or for the type of real estate in question is perceived to be). In an efficient real estate market (with equal tax treatment for rental living and homeownership), market information for the price of the whole real estate can be more readily available, regardless of occupant.[2783]

2780 3308-, Emmanuel, Gavin & Fitzgerald, Karl, 2012, "Real Estate 4 Ransom", documentary, Prosper Australia, viewed 16.1.2014, http://realestate4ransom.com/

2781 See: "4.3.1.6 Case: Helsinki Metropolitan Region".

2782 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production".

2783 See: "4.3.1.3 Practical Challenges: Fair Valuation and Assessment of the Replacement Costs of Improvements and Other Owner-Created Value".

Appendix 2.4: Cognitive Biases Blocking New Perspectives

"In everything one thing is impossible: rationality." – Friedrich Nietzsche

"It seems that I have spent my entire time trying to make life more rational and that it was all wasted effort." – Alfred Jules Ayer, (as quoted in The Observer 17 August 1986)

People simplify decision making by following heuristics – i.e. rules of thumb – and emotional cues of what might be the right course of action in recurring situations. Intentions, decisions, actions, means and outcomes are classified into "good" ones and "bad" ones. Human morality is one instance of this and it is the subject of this book's sister, "The Guilt Economy: Rage Against Our Medieval Money Morals". But additionally both our perceptions of things and judgments regarding them are subject to multiple biases. (So many in fact that maybe we should consider any possible rationality the peculiar exception, instead of the norm.[2784])

The author of this book is surely not immune to any of them and can confess at least to being clearly obsessed with finding structural similarities between different systems and phenomena. As it is always easier to see specks in the eyes of others, any criticisms e.g. regarding rash conclusions, contradictory statements, exaggeration of potential impacts, omitting significant challenges etc. are strongly appreciated.[2785]

Nevertheless, here are preemptively some "specks" that might promote unnecessary skepticism towards any of the fresher perspectives and solutions presented in this book:

2784 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".
2785 See: "5.3.3 Join the Discussion and Inspire Others in Your 'Language'".

Name of bias	**Description**[2786]	**Possible effect in the case of the Root Bug Hypothesis**
Ambiguity effect	The tendency to avoid options for which missing information makes the probability seem "unknown".	The lack of previous research on the suggestions presented here makes them seem more "difficult" or "unlikely" than more dominant ones.
Anchoring or focalism	The tendency to rely too heavily, or "anchor," on a past reference or on one trait or piece of information when making decisions.	Resistance to anything that might risk changing one's current income or make one lose any specific "achieved benefits".
Attentional bias	The tendency to pay attention to emotionally dominant stimuli in one's environment and to neglect relevant data when making judgments of a correlation or association.	The tendency of members of different schools of economics and political factions to ignore or immediately dismiss findings and frameworks presented by person's that they don't respect or that are expected to disagree with them. Especially, focus on the mainstream debate.
Availability heuristic	The tendency to overestimate the likelihood of events with greater "availability" in memory, which can be influenced by how recent the memories are, or how unusual or emotionally charged they may be.	The tendency to see many economic phenomena (such as recession) as natural laws – and to see any new economic idea as impossible utopia.

2786 Mostly from: "List of Cognitive Biases", Wikipedia, cited 4.4.2013, http://en.wikipedia.org/wiki/List_of_cognitive_biases

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Name of bias	Description[2786]	Possible effect in the case of the Root Bug Hypothesis
Availability cascade	A self-reinforcing process in which a collective belief gains more and more plausibility through its increasing repetition in public discourse (or "repeat something long enough and it will become true").	The catching on of things like the demonization of central banks or capitalism, cap-n-trade or shale gas as solutions to climate change, the necessity of collective bargaining for preventing income difference polarization – and many other "solutions" now on the discussion table.
Backfire effect	When people react to disconfirming evidence by strengthening their beliefs.	The presented challenges with existing economic solutions and models will result in further exclusion and less cooperation between interest groups wanting to protect their "truths".
Bandwagon effect	The tendency to do (or believe) things because many other people do (or believe) the same. Related to groupthink and herd behavior.	Enforce demonization of whole entities (e.g. capitalism) or specific parts (e.g. money), misunderstandings related to economics (like the nature of fiat currencies) and fast spreading of solutions appealing to certain interest groups (like ELR and functional finance).
Conservatism (Bayesian)	The tendency to revise belief insufficiently when presented with new evidence (estimates of conditional probabilities are conservative).	The inability to see how our available options expand when the Root Bug is fixed (e.g. no obstacle to solving sustainability issues, the possibility of a fee on the deposit guarantee made possible by negative interest rates...).
Curse of knowledge	Increased knowledge of a topic diminishes one's ability to think about it from a less-informed perspective etc.	Experts seeing no need to correct public misunderstandings regarding economic frameworks. They are also less likely to "sanity check" whether the assumptions of human behavior embedded in the models are realistic for people with hardly any understanding of finance, more guided by emotional associations with money.
Experimenter's or expectation bias	The tendency for experimenters to believe, certify, and publish data that agree with their expectations for the outcome of an experiment, and to disbelieve, discard, or downgrade the corresponding weightings for data that appear to conflict with those expectations.	Tendency of academic circles in general, but especially of economic schools who attempt to justify and enforce their own dogma.
False-consensus effect	The tendency of a person to overestimate how much other people agree with him or her.	The tendency to assume that people agree with each other within economic schools. The tendency to assume people understand the same thing by the same words ("productivity", "welfare", "economic growth") when they don't. The tendency to assume that others want what you want.
Functional fixedness	Limits a person to using an object only in the way it is traditionally used.	For example seeing progressive taxation as purely a way of transferring unearned wealth – and missing out on its possible use as in incentive to share earning opportunities. Seeing inflation purely as failure or unexpected robbery, instead of seeing it as a facilitator of negative real interest rates.

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Name of bias	Description[2786]	Possible effect in the case of the Root Bug Hypothesis
Framing effect	Drawing different conclusions from the same information, depending on how or by whom that information is presented.	Seeing a speaker use vocabulary that matches one's values and his "good intentions" makes us accept what he says without criticism. Only considering (and taking seriously) options presented by academics or others with official credentials.
Hindsight bias	Sometimes called the "I-knew-it-all-along" effect, the tendency to see past events as being predictable at the time those events happened. Colloquially referred to as "Hindsight is 20/20".	Allows explaining previous phenomena with models of one's choice. Strengthens the skepticism towards the potential of any new perspectives and dismiss the possibilities/risks of "black swans" (e.g. the internet, Google, Facebook).
Hostile media effect	The tendency to see a media report as being biased, owing to one's own strong partisan views.	This book is likely to be seen as (and its arguments dismissed as) right-wing propaganda by leftists (as it dismisses most of their traditional solutions) and as socialist propaganda by e.g. Austrian economists and by the pro-business-oriented, as it attacks their commodity money religion.
Hot-hand fallacy	The "hot-hand fallacy" (also known as the "hot hand phenomenon" or "hot hand") is the fallacious belief that a person who has experienced success has a greater chance of further success in additional attempts.	Increases people's trust in e.g. Nobel prize winners and those who "predicted" the financial crisis.
Illusion of control	The tendency to overestimate one's degree of influence over other external events.	Mainstream economic assumption that the central bank controls the money supply (when the money supply is endogenous). The trust of Post-Keynesians that hyperinflation can be limited with fiscal policy and interest rates regardless of the amount of government debt outstanding. Politicians taking excessive credit for their policies' influence on the economy.
Illusion of validity	When consistent but predictively weak data leads to confident predictions.	Inferring too strong causality out of historical correlations, e.g. between the money supply and recessions, economic activity and natural damage, economic inequality and growth, low sovereign debt levels and growth (Reinhart & Rogoff) etc.
Illusory correlation	Inaccurately perceiving a relationship between two unrelated events.	(as above)
Impact bias	The tendency to overestimate the length or the intensity of the impact of future feeling states.	The tendency of happiness politics to assume that people's levels of satisfaction can be increased in the long-term.
Irrational escalation	The phenomenon where people justify increased investment in a decision, based on the cumulative prior investment, despite new evidence suggesting that the decision was probably wrong.	Inability to accept the "sunk costs" of e.g.: - Having focused on ways to stimulate growth and fill "output gaps" by any means (instead of getting supply to meet demand on the individual level). - Attempting to find justifications for the return of the gold standard.

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Name of bias	Description[2786]	Possible effect in the case of the Root Bug Hypothesis
Just-world hypothesis	The tendency for people to want to believe that the world is fundamentally just, causing them to rationalize an otherwise inexplicable injustice as deserved by the victim(s).	Failing to see imperfections in a completely free market of unlimited private ownership and assuming that the reason for some people being poor is always that they are "less productive".[2787] Also, considering recessions to be "punishment" (bad karma) for people living too much on debt earlier.[2788]
Loss aversion	The disutility of giving up an object is greater than the utility associated with acquiring it.	People resisting to abandoning old theories, giving up achieved short-term benefits, the facilitation of negative interest rates on deposits and abandoning the objective of maintaining "real estate wealth".
Ludic fallacy	The misuse of games to model real-life situations.	Overlooking the effects of simplified assumptions in economic model and disregarding human morality and emotional fixations in their decision-making processes.
Mere exposure effect	The tendency to express undue liking for things merely because of familiarity with them.	Opposition to new ideas in general and e.g. easily accepting theories that treat money as "objects" that exist somewhere (e.g. ones advocating commodity currencies), because that's the way people think and speak of money, instead of accounting units.
Money illusion	The tendency to concentrate on the nominal (face value) of money rather than its value in terms of purchasing power.	Failing to see that real interest rates are more relevant than nominal interest rates. Also the cause of nominal rigidities in e.g. wages.
Moral credential effect	The tendency of a track record of non-prejudice to increase subsequent prejudice.	Politicians finding it easier to justify bribes and more straightforward interest group politics after establishing a reputation of solution orientation. (The tendency of economists to become more and more biased towards their own and their colleagues' theories – and resistant to new ideas – as they age? This is likely to be more a matter of "escalating commitment", "curse of knowledge" and "the mere exposure effect".)
Nonsense math effect	The tendency to judge information containing equations higher regardless the quality of them.	The tendency to consider economic theories presented as precisely stated mathematical models to be more valid or reliable.
Neglect of probability	The tendency to completely disregard probability when making a decision under uncertainty.	Because it seems unlikely that fixing the Root Bug could work, it is dismissed altogether – even if just a tiny possibility of it bringing the payback presented in the How section would make it worth investigating.
Normalcy bias	The refusal to plan for, or react to, a disaster that has never happened before.	The idea of mainstream economists (based on historical observations and existing models) that the current economic crisis is a passing state – disregarding e.g. how increased demonization of "consumption" affects aggregate demand. Also e.g. the Post-Keynesian tendency to assume linear relationship between public debt and inflation pressures and fail to see the constantly growing hyperinflation risks e.g. in Japan.[2789]

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ame of bias	Description[2788]	Possible effect in the case of the Root Bug Hypothesis
bserver- xpectancy ffect	When a researcher expects a given result and therefore unconsciously manipulates an experiment or misinterprets data in order to find it.	Helps in finding evidence for (presupposed) causality from historical correlation. E.g. the Reinhard-Rogoff case[2776].
mission bias	The tendency to judge harmful actions as worse, or less moral, than equally harmful omissions (inactions).	Our tendency to protect our "personal integrity" over maximizing total welfare. E.g. justifying maintained poverty by not giving poor people earning opportunities.
Optimism bias	The tendency to be over-optimistic, overestimating favorable and pleasing outcomes.	(see: normalcy bias)
Ostrich effect	Ignoring an obvious (negative) situation.	Failing to see the harmfulness of the dependence on economic growth. Dismissing certain threats in each economic theory, e.g. the risk of hyperinflation in Post-Keynesian economics, the self-reinforcing effect of deflation in Austrian economics etc.
Outcome bias	The tendency to judge a decision by its eventual outcome instead of based on the quality of the decision at the time it was made.	Accrediting politicians currently in power – and economists endorsing their policies – with any current economic successes.
Overconfi- dence effect	Excessive confidence in one's own answers to questions. For example, for certain types of questions, answers that people rate as "99% certain" turn out to be wrong 40% of the time.	Unwillingness to question theories and consider other alternative theories and frameworks (for e.g. what money is and what banking is about).
Pessimism bias	The tendency for some people, especially those suffering from depression, to overestimate the likelihood of negative things happening to them.	The idea that no solution to our problems can be found – at least "not within capitalism" – e.g. because "humans are greedy and selfish."
Post-purchase rationalization	The tendency to persuade oneself through rational argument that a purchase was a good value.	Justifying earlier accepted theories and escalating commitment to earlier commenced policies.
Pro-innovation bias	The tendency to reflect a personal bias towards an invention/innovation, while often failing to identify limitations and weaknesses or address the possibility of failure.	Applies to any new idea, technology or theory.
Pseudocer- tainty effect	The tendency to make risk-averse choices if the expected outcome is positive, but make risk-seeking choices to avoid negative outcomes.	Why crises allow making more difficult political decisions with less political costs and why new economic perspectives receive little new attention during growth-trends.
Reactance	The urge to do the opposite of what someone wants you to do out of a need to resist a perceived attempt to constrain your freedom of choice.	Seeing any authority or central institution as inherently bad or insulting (tendency to take a romantic stance on natural rights libertarianism).

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Name of bias	Description[2786]	Possible effect in the case of the Root Bug Hypothesis
Reactive devaluation	A proposal is devalued if it appears to originate from an antagonist.	Tendency to agree with people that give the impression of having similar values you do. If someone opposes your favorite solutions, or uses words with which you have negative associations, it is easy to brand him as evil and dismiss his arguments.
Recency bias	A cognitive bias that results from disproportionate salience attributed to recent stimuli or observations – the tendency to weigh recent events more than earlier events.	The recent banking crisis as proof that a private banking sector cannot work. Focusing only on what current economics says, and ignoring (almost forgotten) solutions suggested in the 19th century by e.g. classical economists and Georgists.
Recency illusion	The illusion that a phenomenon, typically a word or language usage, that one has just begun to notice is a recent innovation.	Seeing a lot of the theories discussed in this book (e.g. memetic evolution, Credit Theory of Money, inflation as a tax, questioning full private ownership of land) as new, random ideas, dismissing earlier works on them.
Restraint bias	The tendency to overestimate one's ability to show restraint in the face of temptation.	The assumption that we can change the world by changing people's values or making them feel more guilty about things.
Risk compensation / Peltzman effect	The tendency to take greater risks when perceived safety increases.	Stricter bank regulation might further incentivize taking bigger risks. A major reason why ensuring long run income security would be the best way to encourage more entrepreneurship.
Semmelweis reflex	The tendency to reject new evidence that contradicts a paradigm.	Limiting constructive debate and broad application of empirical findings to different theories. E.g. failing to see the ineffectiveness of quantitative easing to spur aggregate demand as evidence against the current models of monetary policy, which are based on the Quantity Theory of Money.
Selection bias	The distortion of a statistical analysis, resulting from the method of collecting samples.	Used to select evidence to support existing theories. E.g. neglecting Japan as a case example against the Quantity Theory of Money.
Social comparison bias	The tendency, when making hiring decisions, to favor potential candidates who don't compete with one's own particular strengths.	A possible reason why economic research organizations – even ones rooting for "new economic thinking" – might avoid new recruits with actually fresh ideas or too much of a questioning mindset.
Status quo bias	The tendency to like things to stay relatively the same (see also loss aversion, endowment effect, and system justification)	(needs no explanation)
Stereotyping	Expecting a member of a group to have certain characteristics without having actual information about that individual.	Drawing conclusions about other opinions and views of people according to individual ones. E.g. progressive taxation -> all other socialist views, opposing wage regulation -> all other pro-business views.

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Name of bias	Description[2786]	Possible effect in the case of the Root Bug Hypothesis
Survivorship bias	Concentrating on the people or things that "survived" some process and inadvertently overlooking those that didn't because of their lack of visibility.	Ignoring possibilities like land value taxation, because they haven't "survived" into present day mainstream political discussion.
Texas sharpshooter fallacy	Pieces of information that have no relationship to one another are called out for their similarities, and that similarity is used for claiming the existence of a pattern.	Feeds rash conclusions of causality (e.g. the Reinhart-Rogoff dispute) and also blows fire into conspiracy theories, putting blame on individual people for systemic problems.[2790]
Unit bias	The tendency to want to finish a given unit of a task or an item. Strong effects on the consumption of food in particular.	A similar effect might discourage the sharing of work: Employers want to first get as much out of existing employees before hiring new ones – even more than overhead costs and risks of hiring would rationally suggest.
Well travelled road effect	Underestimation of the duration taken to traverse oft-traveled routes and overestimation of the duration taken to traverse less familiar routes.	Easily judging new ideas as more utopian and difficult to implement than they really are – when in fact current means and objectives might be far more unrealistic.
Zero-risk bias	Preference for reducing a small risk to zero over a greater reduction in a larger risk.	Labor unions wanting to reduce the risk of individual layoffs and thereby increasing the risk of mass-layoffs or mass unemployment due to bankruptcy. The German (and other) central bankers insisting on keeping the target inflation rate low (remove the risk of negative real interest rates) increasing the bigger risk of eventual uncontrollable hyperinflation due to the constant expansion in the amount of debt.
Zero-sum heuristic	Assuming all situations to be zero sum games, i.e. that someone's gain is always another's loss.	Confusing real wealth to be a zero sum game (or monetary wealth not to be). Considering foreign trade (esp. benefits of comparative advantage) to be a zero-sum-game or failing to see that current account balances (net change in credit balances) are zero-sum-games.

2786 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

2788 Harjuniemi, Timo, "Rikos ja rangaistus: talouskriisit kansallisen kurinpidon oppitunteinta", Revalvaatio,4th Sep 2013, cited 11.5.2014, http://www.revalvaatio.org/wp/rikos-ja-rangaistus/

2789 See: "2.2.6 Post-Keynesian Solutions – Ignore Hyper-Inflation Risks and Guarantee Jobs".

2790 On rash conclusions of causality and the "Reinhart-Rogoff" controversy, see: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison".

On conspiracy theories and institutional interests, see: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

6.2.5 Appendix 2.5: The Tyranny of Jobs

Volume "3 Why We Need to Fix the Root Bug" attempted to explain the full scope of the challenges that the Root Bug is causing or preventing us from solving as well as all the "accidental complexity" that has appeared in our system as the side effect of attempting to treat its symptoms. This appendix lists some additional material as examples of the prevalence of the "jobs" argument in contemporary politics. We take "job creation" as an inherent objective of economic policies and as such a natural part of societal dialogue – including, but not limited to, electoral campaigns – that it is easy to become blinded to its dominance. And it can be even harder to imagine what kind of reforms would be possible without this necessity to put all effort into keeping people full-time employed by any means possible.

6.2.5.1 Descriptive Quotes and Articles

"Just remember these four words for what this legislation means: jobs, jobs, jobs and jobs. Let's vote for jobs!" – Nancy Pelosi[2791]

"In 1786, the cloth workers of Leeds, a wool-industry center in northern England, issued a protest against the growing use of 'scribbling' machines, which were taking over a task formerly performed by skilled labor. 'How are those men, thus thrown out of employ to provide for their families?' asked the petitioners. 'And what are they to put their children apprentice to?'" – Paul Krugman[2792]

"To identify successful countries, the employment rate, i.e. the percentage of the working-age population in employment, is possibly the indicator that carries most weight. This is the case in particular because the employment objectives of the Lisbon Strategy have been phrased first and foremost in terms of the overall employment rate as well as the employment rate of particular groups (e.g. women, youth), and also because the EES focuses on the employment rate rather than on other indicators." (Keune & Jepsen 2007)

"Too many machines, too few workers. Against the robot sustainability gap, we have to develop a robot social democracy, a way to justify collecting high taxes and producing services for everyone. In addition we have to accept unemployment and self-directed fiddling/hobbying as a central part of our societal system."[2793]

"In their final communiqué the G20 said that the group's most urgent need is "to increase the momentum of the global recovery, generate higher growth and better jobs, while strengthening the foundations for long-term growth and avoiding policies that could cause the recovery to falter or promote growth at other countries' expense."[2794]

"Since the beginning of the crisis the global jobs gap increased by 67 million." … "Concerns over the quality of the newly created jobs have also grown. A majority of all new jobs created were part-time or temporary. In July 2013, part-time employment accounted for 19.6% of total employment."[2795]

"Improving labour market outcomes involves several challenges relating to both the quantity and quality aspects of job creation. There is a need in all countries to harness growth to generate labour market opportunities that correspond to labour force growth." … "Moreover, ensuring that there is a tighter link between growth and improvements in job quality is another challenge common to all G20 countries." (ILO et al 2012, p. 1)

"Machines threaten a third of Finland's jobs – a list of endangered professions."[2796]

"According to pollsters at Datafolha, 51% say Belo Monte brings more benefits than damages. The reason? Not electricity, of course. For this region of mostly low income labor, jobs matter most. Sixty-six percent said Belo Monte was good news because it meant employment.

2791 0:40->, "Auto-Tune the News : 6: Michael Jackson, drugs, Palin", viewed 25.5.2013, http://www.youtube.com/watch?v=-Psfn6iOfS8

2792 Krugman, Paul, "Sympathy for the Luddites", The New York Times, The Opinion Pages, 13th Jun 2013, http://www.nytimes.com/2013/06/14/opinion/krugman-sympathy-for-the-luddites.html

2793 "Robottikestävyysvajetta vastaan pitääkin kehittää robottisosiaalidemokratiaa, tapa oikeuttaa korkeiden verojen kerääminen ja palveluiden tuottaminen kaikille. Lisäksi pitäisi hyväksyä työttömyys ja omaehtoinen puuhastelu keskeiseksi osaksi yhteiskuntajärjestelmäämme." – Eranti, Veikko, "Robottiherrojen aika", Ylioppilaslehti, 14th Dec 2013, cited 6.1.2014, http://ylioppilaslehti.fi/2013/12/robotti-herrojen-aika/

2794 "The G-20 and Job Creation", International Labour Organization, cited 6.1.2014, http://www.ilo.org/washington/areas/multilateral-initiatives/the-g-20-and-job-creation/lang--en/index.htm

2795 "Global Economic Recovery and Job Creation", International Labour Organization, cited 6.1.2014, http://www.ilo.org/washington/areas/global-economic-recovery-and-job-creation/lang--en/index.htm

2796 Nieminen, Martta & Pelli, Petja, "Raportti: Koneet uhkaavat kolmasosaa Suomen työpaikoista – lista uhanalaisista ammateista", Helsingin Sanomat, 13th Jan 2014, cited 13.1.2014, http://www.hs.fi/kotimaa/Raportti+Puhelinmyyjien+ty%C3%B6t+voivat+kadota++lista+uhanalaisista+ammateista/a1389579901617

The problem is the 25,000 workers there will not be employed forever."[2797]

Talking about jobs – **work – as if of a resource that needs to be 'produced' (Isn't work the cost that should be minimized?):**
"Fracking Jobs Cost Twice as Much as Green Jobs" ... "The most important is the perception that the $100 billion green stimulus program failed to deliver the jobs it promised." ... "But considering only projects within the Department of Energy itself, the best estimate is that about two hundred thousand one-year-long jobs (or their equivalent over longer time periods) were created by spending about $17 billion. This amounts to about twelve jobs per $1 million in spending." ... "Generally speaking, spending on green investments creates approximately three times as many jobs as spending the same amount of money on maintaining our existing fossil fuel sector."[2798]

The definition of "corporate welfare bum" in the Farlex Free Dictionary:
"Highly derogatory; an executive or company taking money from the public treasury through subsidies, large contracts or other means. The term connotes an individual or company that enriches itself without contributing to the development of an economy *or creating* jobs to any significant extent."[2799] (*emphasis* added)

How Chevron, **like other oil companies, justify sustaining the fossil fuel paradigm with the need to create jobs and boos government tax revenues:**
"It is no secret that reliable and affordable energy underpins virtually every element of the global economy..." ... "And it supports more than 9 million jobs." ... "If the United States encourages responsible development of our abundant energy resources, it could help create more than a million good-paying jobs for Americans, add billions of dollars in government revenues and lead to greater energy security between now and 2030."[2800]

"They are reportedly planning to commit the United States to a series of international emissions mandates that would devastate the U.S. economy and kill American jobs. This is just a bad idea." ... "What they're going to do is threaten jobs in Ohia and elsewhere when we can least afford it. For this reason, I and other House Republicans have written a letter to President Obama to request that U.S. negotiators avoid committing our country to any emissions reduction protocols at Copenhagen. At a time when our national unemployment rate is 10 %, job creation has to be our number one priority." – John Boehner[2801]

On how "being a job creator" is a major justification for income transfers:
"These 'job creators,' this argument goes, should pay their employees as little as possible and keep every penny of profit for themselves. After all, they deserve it: They're the ones who 'create' the jobs that sustain the country."[2802]

Defending public support to companies that create jobs (hampering with fair competition).
"About six percent of small and medium sized companies produce work and innovation. It's relevant to channel money to these companies specifically. Genuinely innovative, growing companies receive too little money, because so much of it is dealt to lousy companies." ... "The first thing is to admit that the government is key factor in innovaton."[2803]

Talking about unemployment as a necessary and value-producing phenomenon (as it prevents inflationary pressures[2804]), in order to (quite illogically) justify high unemployment benefits:
"So the objective is that there is always a minimum amount of oversupply of labor/workforce [fin. työvoima]."[2805] ... "In this way, unnoticed, unemployment secures the existence of the whole market economy. Therefore, those who happen to be unemployed at each time are entitled to a compensation for the fact that by being unemployed they sustain the society."[2806]

2797 Rapoza, Kenneth, "Was Brazil's Belo Monte Dam A Bad Idea?" Forbes, 7th Mar 2014, http://www.forbes.com/sites/kenrapoza/2014/03/07/was-brazils-belo-monte-dam-a-bad-idea/
2798 Pollin, Robert, "Let's Get Serious: Fracking Jobs Cost Twice as Much as Green Jobs", Alternet, 12th Oct 2012, cited 7.1.2014, http://www.alternet.org/economy/lets-get-serious-fracking-jobs-cost-twice-much-green-jobs?page=0%2C0
2799 "Corporate Welfare Bum", Farlex Free Dictionary, cited 3.8.2014, http://financial-dictionary.thefreedictionary.com/Corporate+Welfare+Bum
2800 "How Energy Can Supercharge the U.S. Economy", Chevron, 5th Feb 2013, cited 7.1.2014, http://www.chevron.com/news/inthenews/article/02052013_energyeconomy.news
2801 0:10-> & 0:25->, "Emissions Mandates Will Devastate U.S. Economy, Kill American Jobs", viewed 21.9.2013, http://www.youtube.com/watch?v=I9LwAgA9zDY
2802 Blodget, Henry, "This Selfish Ayn Rand Business Philosophy Is Ruining The US Economy", Business Insider, 24th Sep 2013, cited 7.1.2014, http://www.businessinsider.com/ayn-rand-is-ruining-the-american-economy-2013-9
2803 Teittinen, Paavo, "Näin Suomeen syntyy uusi Nokia", Taloussanomat, 19th Aug 2013, cited 7.1.2014, http://www.taloussanomat.fi/kansantalous/2013/08/19/nain-suomeen-syntyy-uusi-nokia/201311330/12
2804 See: "3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?".
2805 On how such words make it harder to question assumptions, see: "5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance".
2806 Uschanov, Tommi, "Työttömät, yhteiskunnan selkäranka", Helsingin Sanomat, column, 6th Oct 2013, http://www.hs.fi/sunnuntai/a1380945599429

6.2.5.2 Papers Emphasizing Jobs

Kok, Wim, 2003, "Jobs, jobs, jobs: creating more employment in Europe", Report of the Employment Taskforce chaired by Wim Kok, ISBN: 92-894-6911-0, retrieved 7.1.2014, http://bookshop.europa.eu/en/jobs-jobs-jobs-creating-more-employment-in-europe-pbKE5703265/

G20, 2013, "G20 Leader's Declaration", G20 Russia, retrieved 6.1.2014, http://en.g20russia.ru/load/782795034

ILO, 2010, "Accelerating a job-rich recovery in G20 countries: Building on experience", An ILO report, with substantive contributions from OECD, to the Meeting of G20 Labour and Employment Ministers, International Labour Office, retrieved 6.4.2015, http://www.ilo.org/public/libdoc/jobcrisis/download/g20_report_accelerating.pdf

ILO; OECD; IMF & World Bank, 2012, "Boosting jobs and living standards in G20 countries", A joint report by the ILO, OECD, IMF and the World Bank, cited 6.1.2014, http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_183705.pdf

6.2.5.3 Examples of Senseless Job Creation and Job Preservation Attempts

"So Germany spent almost 7 billion dollars to scrap fully functioning cars and to maintain excessive auto factory output. Once the program ended, the industry was right back in the doldrums."[2807]

Also good to look up on continuing, massive Chinese municipal construction projects – maintaining demand for construction and steelworking labor and providing "investment opportunities for the Chinese who insist on saving excessively.
e.g. "How China Fooled The World", documentary, viewed 25.3.2014, https://www.youtube.com/watch?v=HUSjMnmS5II

2807 32:10->, "Overdose: The Next Financial Crisis", documentary, cited 24.9.2013, http://www.youtube.com/watch?v=4ECi6WJpbzE

6.2.5.4 Severity of the Current Unemployment Challenge

"Yet more young people are idle than ever. OECD figures suggest that 26m 15- to 24-year-olds in developed countries are not in employment, education or training; the number of young people without a job has risen by 30 % since 2007." ...

"The most obvious way to tackle this problem is to reignite growth. That is easier said than done in a world plagued by debt, and is anyway only a partial answer. The countries where the problem of debt is worst (such as Spain and Egypt) suffered from high youth unemployment even when their economies were growing. Throughout the recession companies have continued complaining that they can't find young people with the right skills. This underlines the importance of two other solution: reforming the labour markets and improving education." ...

"Youth unemployment is often at its worst in countries with rigid labour markets. Cartelised industries, high taxes on hiring, strict rules about firing, high minimum wages: all these help condemn young people to the street corner."[2808]

2808 "Generation Jobless", The Economist, 27th Apr 2013, p. 9.

6.3 APPENDICES WITH THOUGHT EXPERIMENTS, SPECULATION AND WILDER IDEAS

6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest

As discussed in "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land" and "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice", the deontological libertarian solution to the Tragedy of the Commons is a simple one: Just remove all "commons" altogether and make everything privately owned. As e.g. Milton Friedman likes to emphasize, no one has the incentive to take care of other people's property like they have to take care of their own. Thus, if individuals owned everything, everything would be taken care of by someone.

Let's play a small thought experiment with this "natural rights libertarian" ideal of a world where a (voluntary) government only prevents violence against others and protects rights to private property (along the non-aggression principle, NAP), intervening in no other way in free contracts and other trade between people. To avoid all the difficult questions, let's also assume that there are no things that are too big to be owned,[2809] like oceans or vital rivers or seas and that human activity cannot affect the climate, the quality of air or the purity of rain. All other contamination and losses of natural richness could be ensured by someone owning them and demanding compensations from others who damaged them under the righteous eye of the private courts operating under a voluntary government.

What kind of world would we have? Very soon, people would notice that arable land, fishable ocean and other irreplaceable vital resources for producing food are scarce. As the population grows and living standards develop so that these resources are also used for non-vital purposes, they become increasingly lucrative stores of value and people with excess earnings start buying them up. As these resources are bought also just for storing value, their price soars further, making them yet better forms of investment. Those who own land in central locations of growing cities could charge higher and higher rents and use these to buy up bigger shares of farm land as well, which is relatively affordable, as it doesn't have quite as much of a local monopoly as urban prime real estate.[2810]

Few would be stupid enough to sell off their land (in net) unless they had to, because even holding on to it without using it to its fullest sustainable capacity would be profitable – and first and foremost it would provide security. People with enough land to meet their own living needs would be able to earn more just by owning the land and demand increasingly more effort for less pay from those who don't have any land of their own.

Anyone who has played the board game Monopoly knows that the best strategy is always to buy as much as you can afford: Even if you didn't need that specific lot, keeping it away from others' hands can give you increased safety and leverage in negotiating with them over other lots – or anything at all.[2811] The only case in which you should sell lots is to trade them for lots that are more useful to you, e.g. give you better control of the construction and real estate market in an area to maintain apartment deficits and higher rents[2812] – or if you would certainly otherwise starve. As long as you can at least survive on your rents, never sell any land. This would not be the case if it were always possible to create new lots between the existing ones. In that case (or if land ownership was taxed heavily[2813]), owning lots without using them for something productive would be a waste.

Because no one would be foolish enough to let go of any land that they have acquired – except in exchange for more suitable land for their purposes, this would result in a strict two-class society – the landowners and the non-landowners. If there is no state with a "monopoly on violence" – as libertarians like to say – and the power to dictate the currency in use due to its resulting ability to tax, then landowners have an oligopoly and local monopoly on violence and the ability to dictate their currency in use

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2809 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

2810 See: "4.3.1.1 Land – One Mother of a Monopoly".

2811 Especially when playing by the proper rules, according to which unbought lots are put up for auction to other players. "Monopoly mistakes we've all been making", news.com.au, 30th May 2013, cited 4.6.2013, http://www.news.com.au/money/money-matters/monopoly-mistakes-weve-all-been-making/story-e6frfmd9-1226653465781

2812 See: "4.3.1.6 Case: Helsinki Metropolitan Region".

2813 See: "4.3.1.2 Land Value Taxation – Preventing Underusage, Extortion and Bubbles".

with the ability charge rent. Of course, collectively, all of them would have the interest to require rents to be paid in a commodity currency of limited supply, in order to make this deflationary money (and debt) in it further tools of extortion.

This would be somewhat like a medieval feudalist system, where noblemen owned the land and were free to tax the peasants living off that land as they pleased. The only difference would be that the medieval land slaves were not only tied to their land by the necessity to make a living but by coercion if necessary. In this libertarian dream world we might still have free movement of peasants (unless land owners were allowed to restrict passing through their property), in which case there would be open competition over this workforce between the landowners.

The landlords would have the option of renting the land to individual entrepreneurs and farmers or to control all production and buy work from the landless class and sell them back some of the products. In either case, there would be no incentive to rent part of the land to everyone or let everyone participate in the production work available. Rather, piling up work on fewer people or letting individuals rent bigger amounts of land would allow keeping the competition over these (work and rentable land) fierce enough to keep the pay at subsistence level or the rents at rates leaving the non-landowners with subsistence level profits. This is called the Iron Law of Wages: Because people cannot afford to let themselves die, the supply curve of labor is a "hockey stick" as long as everyone does not have a means of making a living self-sufficiently, a way of participating in common production or access to some form of social support.[2814]

The above of course assumes that people would obediently follow the given rules – respect others' private property. However, it is likely that there would be a lot of violent and otherwise treacherous scheming over land ownership both between landowners (seeking to secure their own power and economic security) and also by non-landowners who have no realistic legal means of making the "class shift." It is also likely that we'd see waves of attempts for new communist revolutions by the non-landowners and end up with a very violent and turbulent environment.

If that is the kind of society you are looking for – survival of the fittest and merciless exploitation and disposal of the weak – then private land ownership is the best option available and we need no incentives to share work either. Then The Root Bug is your best friend.

2814 See: "3.2.2 Unfair Income Differences and Limits to Social Mobility".

6.3.2 Appendix 3.2: The Challenges with Democracy

"Writing about democracy is a crazy exercise – something no sensible person would dare to attempt." – Patrick Chalmers, Fraudcast News (2012, p. ix)

"Government is the great fiction, through which everybody endeavors to live at the expense of everybody else." – Frederic Bastiat

"Giving money and power to government is like giving whiskey and car keys to teenage boys." – P. J. O'Rourke

"Why would an economist be embarrassed to be seen at the voting booth? Because voting exacts a cost – in time, effort, lost productivity – with no discernible payoff except perhaps some vague sense of having done you 'civic duty'." ... "The odds that your vote will actually affect the outcome of a given election are very, very, very slim." – Steven D. Levitt & Stephen J. Dubner, Freakonomics (2005, p. 238-239)

"The democrats, I find, have not been as good at understanding that politics is really religion – politics is about sacredness" ... "The problem is that whoever has the reigns of government, uses it for moralistic purposes. They use it to further their sacred ends. And they use it to channel money and programs and largesse to their favored groups. So people on the right don't trust government to do what's right with their tax dollars." – Jonathan Haidt[2815]

"Democracy" is a word with many meanings, but generally a very positive connotation,[2816] giving a strong "brand" to the forms of decision making it refers to.

In its broadest sense, democracy (from Greek: *demos*, "people"; *kratos*, "rule" or "power") is "governance/rule by the people". To some it might simply mean "absence of tyranny". This is probably close to what Karl Popper had in mind when he wrote:

> "Their story that democracy is not to last for ever is as true, and as little to the point, as the assertion that human reason is not to last for ever, since only democracy provides an institutional framework that permits reform without violence, and so the use of reason in political matters." (Popper, p. 14)

With such definitions we could consider a market economy to be democracy at its best – decisions and structures emerging out of the independent decisions of individuals.[2817] However, the "market forces" are often set in contrast with democracy. One argument for this is that a market can grant people different amounts of influence in different matters, in the form of e.g. purchasing power. Other definitions of democracy assume that the power granted to each person in each "democratic question" must be equal – e.g. one vote per person. Making the market "more democratic" – as e.g. participatory economics suggests[2818] – does *not* mean increasing individual freedom.

In an even more narrow sense, "democracy" is often used to refer specifically to the type of *representative democracy* that is used to govern most nation states currently, involving a parliament or congress or senate of some kind selected in an election with one vote per eligible citizen. Many advocates of democracy like to channel most criticisms of democracy towards this system and insist that they would not apply to *"direct democracy"*, where participants vote directly on decisions, instead of representatives.

The anarcho-capitalist[2819] view is that all governments, even ones officially under democracy, are still entities with their own agendas – most notably self-preservation and expansion – and that no "public interest" can be established out of people's individual preferences. Even if you were not as skeptical about the possibility of aggregating opinions, the important insight from this criticism is that we can move away from tyranny and despotism along (at least) two different axes:

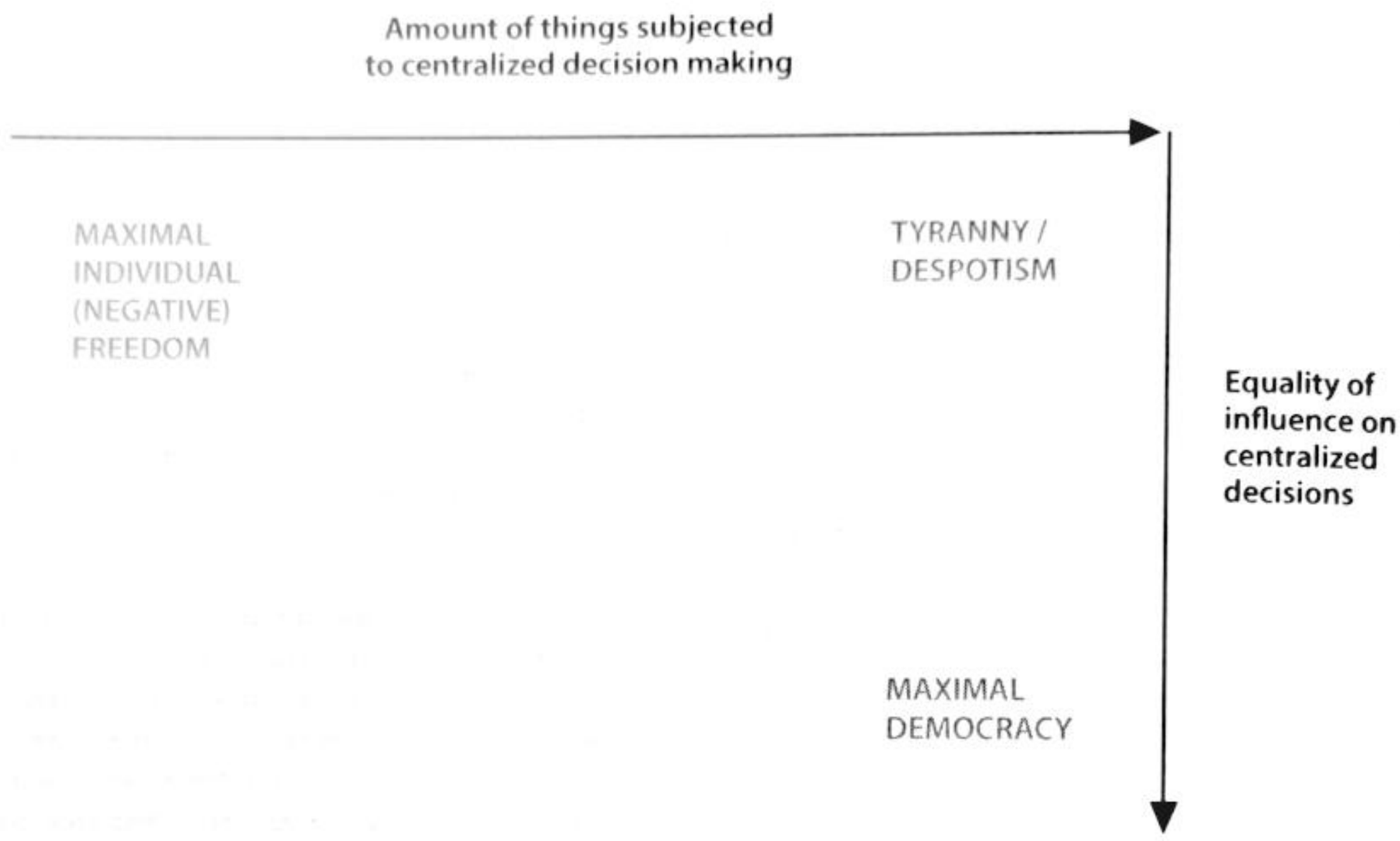
2815 29:16-> & 44:15->, Haidt, Jonathan, 2012, "Jonathan Haidt Explains Our Contentious Culture", interview, viewed 12.12.2013, http://www.youtube.com/watch?v=jHc-yMcfAY4

2816 See: "5.1.1 Our Emotional Attachment to Words".

2817 See: "1.1.2 Societal Structures Facilitate Cooperation – Economic Systems Direct Resources".

2818 See: "2.2.3.7 Participatory Economics – 'Let's All Decide on Things Together'".

2819 See: "2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice".



GRAPH 45: TWO AXES OF "DEMOCRACY".

- changing how centralized decisions are made (i.e. involving more people in it)

- changing how many things are subjected to centralized decisions (i.e. increasing the possibities of individuals to make independent choices)

We have maximal tyranny when one person has the power to decide everything. We have maximal democracy when everything is decided centrally and every individual has an equal power to influence these collective decisions. We have maximal individual (negative) freedom when nothing is subjected to centralized decision making and no one is forced to accept any decisions made by others.

In many people's perception, "democracy" – giving power to the people – means "people deciding over their own things," but actually democracy is more about people deciding over *each other's things*.

When talking about "democracy" in this appendix, we refer to all arrangements of "collective centralized decision making" on all levels: from families and companies to nation states and international communities. "Increasing democracy" means distributing the power to affect centralized decisions more broadly and equally, *and* subjecting more things to such centralized decision making.

Subjecting things to collective decision making is conceptually very close to common ownership,[2820] and it is subject the same challenges. Anyone who has tried backpacking with more than two other people without a clear preset travel plan or travel leader knows that democracy easily becomes annoying: Making common plans that suit every one is very difficult, and decision processes become unnecessarily heavy. It is quite peculiar how – especially in the American rhetoric – "democracy" has become strongly linked with "freedom" – almost to the extent where the two are considered synonyms.[2821] Making binding decisions together is often limiting everyone's negative *and* positive freedom. The Romans had good reason to say that no one should be forced into common ownership.[2822]

The romanticized view of the democratic state, where everyone has one vote, is that it looks after the interests of all of its citizens equally. But this is seldom the outcome of such collective decision making, as this does not mean that every possible *collective* would have equal power, or even power in proportion to their size. Libertarians are often the first emphasize that democracy – if it works

2820 See: "1.1.7 Ownership as a Bundle of Rights".
2821 Rachman, Gideon, "Freedom and democracy can become enemies", Financial Times, 8th Jul 2013, cited 15.7.2013, http://www.ft.com/intl/cms/s/0/aa674a0a-e7af-11e2-babb-00144feabdc0.html#axzz2Z1rF5fsH
2822 See: "1.1.7 Ownership as a Bundle of Rights".

and representative or not – is practically always a rule of the majority (which is also one dictionary definition of "democracy"[2823]) – often at the expense of the minority.

Milton Friedman presented "Director's Law": that "almost invariably government programs benefit the middle-income class at the expense of the very poor and the very rich". This is because "you have a political system under which laws are passed by 51 % of the people voting one man against 49 % of the people. Now, the way to get a law passed is to form a coalition covering 51 % of the people."[2824] And such a skillful coalition can most easily be formed by "the middle-income class" in order to get money from the very rich. This makes sense in a corporatist[2825] interest group world although the author dislikes the idea of people being put (or putting themselves) into "classes" according to their position on such an income axis.

This problem is especially salient in economic issues, for example in the persistence of "the duality in labor markets that separates well-protected insiders from vulnerable outsiders".[2826]

> "It is always easier for any government not to antagonise well-entrenched insiders and avoid protests, but this is unfair to the larger working population and leads to social imbalances in the long-term." (EIF-1 2013)

The same problem applies for implementing land taxation in a situation where subsidies of homeownership have created a majority of incumbent "landowners" who (think they) benefit – in the short-term – from the perverse market situation that maintains housing deficits.[2827]

Another problem with democracy is that when everyone is deciding on everything, it means that we have a lot of people deciding over things the functioning and full effects of which they might not understand at all.[2828] Thus they are likely to vote, not only against the overall benefit of the society, but even against their own long-term interests. Winston Churchill is quoted to have slipped (near blasphemously):

> "The best argument against democracy is a five-minute conversation with the average voter."

When for example voting on whether to join the EMU, how many people actually understood what the functions of currency exchange rates are (e.g. how they play a fundamental role in balancing labor costs and competitiveness between nations,[2829] especially in situations where wages are sticky, i.e. nominally rigid downwards)? Nuclear power is another cliché example. There are valid reasons to oppose nuclear power,[2830] but still most people vote mainly based on their emotional attitude towards the issue disregarding the benefits, costs and risks as well as the threats posed by the alternatives.

In 1984, George Bishop and his colleagues conducted a survey on whether certain laws should be abolished. Initially 22-38 % of the surveyed took a stance on the issue, and after repeating the question, up to 56 % of the people did. This is noteworthy because the laws in question did not exist. Currently researchers estimate that only 5 % of citizens base their political opinions on consistent and diligent evaluation of the options. Also the likelihood of a person with false beliefs giving his opinion is the greater the less informed he is.[2831]

And it is not only about a lack of knowledge. As mentioned in "5.2.4 The Religious Nature of Economics and Politics", people are extremely reluctant to change their views and trying to correct misperceptions more often leads to a "backfire effect": *strengthening* these misperceptions. (Nyhan & Reifler 2010) And as explained in "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", people often make decisions that allow them to justify their previous choices and actions to themselves, instead of optimizing the expected outcomes of the decisions. Such avoidance of cognitive dissonance strengthens the confirmation bias: the tendency of people to favor and notice information that confirms their beliefs.[2832] Not only does this involve selective memory, but purposeful rejection of knowledge and abandoning analytical skills one would otherwise apply. And this is especially true for religious, political and other ideological issues, which form a significant component of a person's identity and self-esteem. In one study, framing a fictive exercise as data on the impacts of gun control on crime

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"[1a: government by the people; especially : rule of the majority] - "Democracy", entry, Merriam-Webster dictionary, cited 26.2.2014, http://www.merriam-webster.com/dictionary/democracy

"Majority rule" - "Democracy", entry, The Free Dictionary, cited 26.2.2014, http://www.thefreedictionary.com/democracy

[2824] 42:30-43:15, Friedman, Milton, "Myths that Conceal Reality", presentation, viewed 2.12.2012, http://www.youtube.com/watch?v=zNtKk2Eml-o

[2825] See: "3.2.3 Unionization and Strikes".

[2826] See: "3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility".

[2827] See: "6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?" and "4.3.1.6 Case: Helsinki Metropolitan Region".

[2828] See: "6.1.4 Appendix 1.4: The Conundrum of Causality – The Cultural Depends on Comparison".

[2829] See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further" and "3.1.6.2 Sticky Trade Imbalances".

[2830] See: "3.4.4 The Nuclear Power Case Example – Are All Risks Adequately Internalizable?".

[2831] Rapeli, Lauri, 2012. "Onko gallupeissa järkeä?" Tiede 10/2012, p. 16-17.

[2832] See: "6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives".

(instead of data on using a cream on treating rashes) caused significant bias according to the respondents' political beliefs.[2833]

A third criticism of applying to *representative* democracy is that it is impossible to implement without at least some form of "corruption" and rent-seeking[2834] creeping in. Politicians repeatedly rank among the least trusted professions – at least in the United States. (Krastev 2013) Even if politicians took no direct bribes, they are still required to look after the interests of those who voted for them as their representatives – even on the expense of other interest groups or the functioning of the whole system. And furthermore, it is almost always a better strategy regarding re-election to prioritize the benefits of those who are likely to fund your campaign than those who can give you a single vote at best. As discussed in "Sidenote Box 322B: The Special Case of CEO Pay – Efficiency Wages and the Corrupting Nature of Power", economists are repeatedly surprised about how cheap it is to bribe politicians (the "Tullock paradox"). (Congleton 2002)

It is impossible to illegalize or weed out this sort of "corruption" completely. Even if private funding for campaigning was banned, it is still more valuable to turn local opinion leaders on your side than an average person. And even if you were the populist politician aiming to make an impression on the common folk directly, it is still a dominant strategy to focus on being the best (least bad) option for some notable interest groups. The idea of a politician trying to maximize total welfare in the system is almost completely out of the question.

Politicians – aiming at re-election – are most likely to vote for bills and suggestions that *sound* good to the voters (who don't dig deep into things) and are likely to get positive press publicity – regardless of whether the solution in question actually works. As George Lakoff suggests, in politics, "frames trump facts". (Pinker 2007, p. 259) Many representatives are also likely to prefer voting for the lower risk (the familiar and "conservative") option just to avoid the possible blame if something goes wrong with a more risky plan, even if they'd principally be for it.

It is possible to get votes simply by associating oneself (through e.g. rhetorical means) with values with which voters can identify themselves and with which they want to be associated – without any intention or even promises to take any actual legislative actions regarding these issues.

> "The nature of self-deception helps account for wh
> the use of symbols and cheap talk is not simply
> zero-sum game, winning one set of voters but losin
> another. A party can, through clever use of symbol
> gain votes from extremists without losing the sam
> number of votes from moderates, or vice versa. W
> assumed above that people interpret the world to fee
> better about themselves. Moderates and extremists,
> in search of pride, will interpret the same symbols
> in differing ways. Assume the Republican Party puts
> strong anti-abortion language in its Party platform.
> The moderates can say: 'My party is offering some
> symbols to keep the loyalties of the extremists and
> win the election, but we really are not extremists.' The
> extremists can say: 'My party shows some chance of
> coming around on the abortion issue, it is OK for me
> to support it.' The symbol therefore can bring in more
> votes than it loses. To borrow a phrase from Marx,
> politics becomes 'the opiate of the voters.'" (Cowen
> 2003, p. 12)

We could say that voters are acting more based on *virtue ethics* (trying to avoid negative associations and attract positive ones) than *consequentialist* considerations[2835] (trying to influence outcomes). Or we could say that voting for politicians and parties is more a "symbolic" "purchasing decision" than a "functional" one.[2836]

Fourthly, (applying to direct democracy even more than representative democracy) there is simply the inefficiency of collective decision making. Democracy can be seen as a form of common ownership – at least of the legal system if the government has minimal property and market control. And any common ownership system is always struggling between The Tragedy of the Commons - the incentives for individuals to over-exploit resources - and Tragedy of the Anticommons – the inability to make decisions efficiently.[2837] Requiring a larger majority to get initiatives passed prevents decisions that cause harm to large quantities of people, but also makes it possible for a minority to veto against decisions that might be beneficial for the whole society, causes underutilization of resources and generally makes the decision-making processes heavier and more costly. (Heller 1998)

All these problems seem to call for giving up on any kind of democracy and common ownership. But because of the fundamental imperfections of a completely "free" market,[2838] we need some kind of central entity penalizing

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2833 Mooney, Chris, "Science confirms: Politics wrecks your ability to do math", Mother Jones, 4th Sep 2013, cited 8.9.2013, http://www.motherjones.com/politics/2013/09/new-study-politics-makes-you-innumerate

2834 See: "6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive".

2835 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion" and "2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?".

2836 See: "6.1.2 Appendix 1.2: Different Types of Value Products Provide".

2837 See: "1.1.7 Ownership as a Bundle of Rights".

2838 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

for externality costs and some kind of common ownership of limited vital resources and natural monopoly industries to prevent extortion.

What would be a better form of governance than representative democracy for such an entity then? This book has no final answer for it. In the anarcho-capitalist solution, states (legislative and judicial entities) are formed voluntarily. Also the funding of states is voluntary and those who fund it the most can have the most votes in deciding over laws and budgets. This would practically make it unprofitable for those with low income to pay any "taxes" at all, leaving them completely out of decision making. It would allow those with the most assets to make laws that further allow them to hoard up limited, vital resources and hence more and more power.[2839] However, seeing how the current system also gives the power to those who have money to fund campaigns, this kind of feudalist plutocracy might not actually make much of a difference to the current system.

Eric X. Li recently gave an inspiring TED Talk pointing out the fundamentalism of the Western world's blind faith in the power of democracy:

> "We are living in the dusk of an era. Metanarratives that make universal claims failed us in the 20th century and are failing us in the 21st. Metanarrative is the cancer that is killing democracy from the inside." ... "It is the universal claim that many Western elites are making about their political system, the hubris that is at the heart of the West's current ills. If they would spend just a little less time on trying to force their ways onto others and a little bit more on political reform at home, they might give their democracy a better chance. China's political model will never supplant electoral democracy, because unlike the latter, it doesn't pretend to be universal – it cannot be exported. The significance of China's example is not that it provides an alternative, but the demonstration that alternatives exist. Let us draw to a close this era of metanarratives. Communism and democracy may both be laudable ideals, but the era of their dogmatic universalism is over. Let us stop telling people and our children that there is only one way to govern ourselves and a singular future towards which all societies must evolve. It is wrong, it is irresponsible and, worst of all, it is boring!" ...
>
> "In China, there is a different kind of mechanism to be responsive to the demands and thinking of the people. My point is, I think we should get unstuck from the thinking that there is only one political system – election, election, election – that can make it responsive."[2840]

Paul Romer also makes a strong case for leaving room for new experiments in governance forms:

> "If we can keep innovating in our space of rules and particularly innovate in the sense of coming up with rules for changing rules, so we don't get stuck with bad rules, then we can keep moving progress forward and truly make the world a better place."[2841]

"Democracy 2.0" – or should we say "Governance 2.0", as democracy might be deemed inefficient in all its forms – is one of the next big issues mankind needs to discuss constructively. "6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources" presents one hypothetical model for discussion, where competing governance forms compete over citizens and natural resources with them. The internet and other new technologies surely allow new forms of decision making and influence we cannot even imagine yet.

But right now, our economic system is what is causing the destruction of our planet and making many people's lives miserable, and therefore "Market Economy 2.0" is much higher up on the priority list. And I firmly believe that even our current democratic system – although currently a compromise machine where every interest group is trying to rob others – would allow fixing the Root Bug if we were to foster open and questioning, cross-disciplinary and cross-cultural discussion as well as ensure that our education systems[2842] promote critical, creative and entrepreneurial attitudes and give everyone a broad general understanding about the functioning of the physical world, human nature as well as existing, past and hypothetical institutions.

2839 See: " 6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest".

2840 15:41-> & 18:58->, Li, Eric X., 2013, "A tale of two political systems", TED Talk, viewed 3.7.2013, http://www.ted.com/talks/eric_x_li_a_tale_of_two_political_systems.html

2841 18:00->, Romer, Paul, 2009, "Why the world needs charter cities", TED Talk, viewed 20.10.2013, http://www.ted.com/talks/paul_romer.html

2842 See: "4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability".

"There is certainly no measurable concept, meaningful, that could be called the 'public interest' – because, how do you weigh different interests of different groups and what they can get out of it? The 'public interest', as a politician thinks, it does not mean it exists. It's what he thinks is good for the country. And if you come out and say that, that's one thing, but behind this hypocrisy of calling something 'the public interest' as if it exists, that's what I was trying to tare down." – James Buchanan[2843]

"What if that establishment does not want and doesn't have the consent of the governed? What if the two-party system was actually a mechanism used to *limit* so-called public opinion? What if there were more than two sides to every issue, but the two parties wanted to box you into a corner – one of their corners? What if there's no such thing as 'public opinion' because every thinking person has opinions that are uniquely his own? What if what we call public opinion was just a manufactured narrative that makes it easier to convince people that, if their views are different, then there's something wrong with that or there's something wrong with them? What if the whole purpose of the Democrat and Republican parties was not to expand voters' choices but to limit them? What if the widely perceived differences between the parties was just an illusion? What if the heart of the government policy remains the same no matter who's in the White House? What if the heart of the government policy remains the same no matter what the people want?" ... "What if the rhetoric that candidates displayed on their campaign trail was dumped after electoral victory?" – Judge Andrew Napolitano[2844]

"In theory, democracy is a bulwark against socially harmful policies. In practice, however, democracies frequently adopt and maintain policies that are damaging." ... "The influence of special interests and voter ignorance are two leading explanations. I offer an alternative story of how and why democracy fails. The central idea is that voters are worse than ignorant; they are, in a word, *irrational* – and they vote accordingly. Despite their lack of knowledge, voters are not humble agnostics; instead, they confidently embrace a long list of misconceptions. Economic policy is the primary activity of the modern state. And if there is one thing that the public deeply misunderstands, it is economics." – Bryan Caplan, The Myth of the Rational Voter: Why Democracies Choose Bad Policies (2007, p. 1)

"The neoconservative version of democracy is more or less what Noam Chomsky means by 'spectator democracy': a system in which the public engages in periodic legitimation rituals called 'elections,' choosing from a narrow range of candidates all representing the same elite." – Kevin A. Carson, Austrian and Marxist Theories of Monopoly Capital: A Mutualist Synthesis (2004, p. 17)

"In Sunday's New York Times story, a former dean of the University of Chicago Law School, Geoffrey Stone, recalls Mr. Obama often expressing concern that 'democracy could be dangerous,' since popular majorities may be 'unempathetic' about 'the concerns of outsiders and minorities.'" – David Lewis Schaefer[2845]

2843 32:32->, Curtis, Adam, "The Trap, What Happened to Our Dreams of Freedom, 1/3 - F*ck Yo Buddy", documentary, viewed 9.9.2013, http://www.youtube.com/watch?v=IhQdaqavtdE

2844 "Judge Napolitano: How to get fired from Fox in under 5 mins", LiveLeak, 20th Feb 2012, cited 3.1.2014, http://www.liveleak.com/view?i=52b_1329796059#SvYw3Kei7rFF9DdQ.01

2845 Schaefer, David Lewis, "When It Comes to Judges, 'Pragmatic' Means Unprincipled The Wall Street Journal", The Wall Street Journal, 9th May 2009, cited 3.1.2014, http://online.wsj.com/news/articles/SB124182908227302619

"Nemo invitus ad communionem compellitur." ("No one should be forced into common ownership.") – Ancient Roman Legal Principle

"When are the world's political parties going to get appropriate symbols: snake, louse, jackal, ... trash can, clown face, ... dollar bill with bat wings on it?" – P.J. O'Rourke, All the Trouble in the World

"The politician, acting on a modified Keynesian maxim that in the long run we are all out of office, does not care if his successful cure of unemployment is bound to produce more unemployment in the future." ... "No worse trap could have been set for a democratic system in which the government is forced to act on the beliefs that the people think to be true." – Friedrich A. Hayek, Choice in Currency: A Way to Stop Inflation (1976, p. 16)

"The proletarian movement is the self-conscious, independent movement of the immense majority, in the interest of the immense majority." – Karl Marx and Friedrich Engels, Communist Manifesto (1848, p. 13)

6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources

"If we can keep innovating in our space of rules and particularly innovate in the sense of coming up with rules for changing rules, so we don't get stuck with bad rules, then we can keep moving progress forward and truly make the world a better place" – Paul Romer[2846]

"Today, as you know, everything is 'innovation.' We have problems, and people are looking for fairy-tale solutions – innovation like manna from heaven falling on the Israelites and saving them from the desert. It's like, 'Let's not reform the education system, the tax system. Let's not improve our dysfunctional government. Just wait for this innovation manna from a little group of people in Silicon Valley, preferably of Indian origin.'" – Vaclav Smil[2847]

"Some degree of conflict among groups may even be necessary for the health and development of any society. When I was a teenager I wished for world peace, but now I yearn for a world in which competing ideologies are kept in balance, systems of accountability keep us all from getting away with too much, and fewer people believe that righteous ends justify violent means. Not a very romantic wish, but one that we might actually achieve." – Jonathan Haidt, The Righteous Mind (2013, p. xx)

The following is a very out-of-the-box, hypothetical thought experiment meant mainly for inspiration. By no means is the intention here to campaign for the implementation of such a system – at least not immediately. You could call this "Georgism on acid" – applied to governance instead of an individual economic system. If nothing else, this prototype would serve as an interesting strategy computer game. The basic "gaia trade" game mechanic is All Rights Reserved, but if you are interested in implementing such a game, the author would be eager to discuss cooperation on such a project!

As discussed in "6.3.2 Appendix 3.2: The Challenges with Democracy", democracy is far from a perfect governance system for a society and the use of natural resources. And even if most nations managed to get rid of their dependence on economic growth and hence were able to stop waging the economy war between nations, there would still likely be brawls over natural resources between nation states.[2848] One alternative, following the example of memetic evolution set by competing companies, would be nations that *compete* over citizens (instead of production and enterprise, like the do now) – in other words, give citizens the *choice* over which state they want to belong to. But the problem of how to distribute natural resources, namely land, between these remains.

As we could consider the role of states to be serving as "vehicles" for the common ownership of natural resources,[2849] we could consider citizens as "shareholders" of this vehicle: Regardless of how use rights are sold and determined in a states legislation[2850] citizens of each state always have an equal claim to all of its natural resources when they decide to "opt out" of the system. A person "opting out" of a state and moving to another would hence move a portion of its resources with her. This would make countries compete over citizens instead of trying to deter immigration, as they would get natural resources with immigrants! This would also give the citizens of each state a significant incentive to make sure that their government looks after the value of its natural assets – their common property – as deterioration thereof limits their future options, even if they planned on moving out later.

However, a government might also have the incentive to actually deteriorate the value of its natural assets to make its citizens less desirable immigrants for other nations (similar to a "poison pill strategy" against hostile takeovers). Another moral hazard is that deaths reduce the number of people who are sharing the resources and births increase them. A beneficial effect of this is that citizens and states have the incentive to control their population, but in an extreme case this could give an

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2846 18:00->, Romer, Paul, 2009, "Why the world needs charter cities", TED Talk, viewed 20.10.2013, http://www.ted.com/talks/paul_romer.html

2847 Thompson, Clive, "This Is the Man Bill Gates Thinks You Absolutely Should Be Reading", Wired, 25th Nov 2013, cited 30.11.2013, http://www.wired.com/wiredscience/2013/11/vaclav-smil-wired/

2848 See: "3.3.5 Resource Wars and Sustained Political Instability".

2849 See: "3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources" and "4.3 Eliminating Private Monopolies and (Other) Privileges".

2850 See: "1.1.7 Ownership as a Bundle of Rights".

incentive for covert genocide. Of course, even speculation of potential environmental sabotage or genocide would cause citizens to overthrow the government or flee – as long as mobility between nations is somehow ensured. And on the other hand, if this incentive exists, it should exist just as much in the current situation.

One practical obstacle to such mobility is that people become emotionally attached to places, and therefore the threshold to move to another country is often quite high. This rigidity cannot be removed completely, but the possibility of "voting with one's feet" would be a significantly more "deterministic" way of affecting the governance one lives under than e.g. voting with one vote in an election every four years.[2851] Also, if a big part of the population of a whole town or city wanted to join a different "state" (a different governance and economic system), they could possibly take the whole city with them to be joined into the other state.

So, the challenge is then, how to decide what land and other natural resources – which are far from homogeneous in value and quality – to be moved with the emigrants? For a fair way to assess the value of different kinds of land (location and resources present) with each other, we'd need some kind of trading system. To begin with, let's create currencies for trading natural resources between states and call them *"gaias"* (to be all hippie and everything). Each gaia constitutes claims to that state's natural resources, e.g. Norway gaias would constitute claims to Norwegian natural resources.

At fixed periods – e.g. every five years – there is a "gaia auction". At the beginning of the auction, 100 gaias per emigrant during the past five years is transferred to the state of emigration. Then each country prices its own natural assets (land and sea areas) so that the total price of all assets is 100 gaias times its population at the previous auction five years ago (or the average for the five years before that). This is the minimum price at which it has to sell each asset. If the state e.g. wants to make sure it does not lose its capital city area, it has to price the capital city area very highly and leave the rest of the land very cheaply for offer.

Then the bargaining starts. Gaias of different types can be traded for each other, so that e.g. two countries with a close to net zero immigration between them and similarly valued natural assets can simply return each other's gaias and not exchange any natural assets. The "gaia exchange rates" (between gaias of different states) also provide an interesting relative valuation of the natural assets of different states, giving their citizens a good measure of how well their state has cared for their common property. Gaias cannot be saved beyond individual gaia auctions – all gaias have to be returned to the target country in one way or another before the auction is over. After the auction, there is a time period – e.g. one year, so as to allow any crops to be collected – to prepare for the transfer of land control. Of course, there are severe penalties for damaging land during this time or extracting more resources from it than was planned at the auction time.

States that allow forms of private land ownership would of course – to mitigate "political risks" – need to have a credible system in place to compensate financially for the losses incurred by "economic" landowners for their land being moved to another state. If ownership rights in the two countries are similar, then the landowners could be granted an *a posteriori* option to move with the land (granting additional gaias for the target states). However, the ownership (the bundle of rights[2852]) of the same piece of land as defined by the legislations of two different states might have a very different economic value, in which case the land would have to be expropriated by the state and then resold – or otherwise allocated – by the new state that takes it under its control. In the case of market-value-based land taxation, the compensation could simply be the current taxable market value – be it determined by the owner (Henry George style), by outstanding offers or by some kind of valuation algorithm.[2853]

If many states (other than the incumbent holder) end up wanting the same piece of land (or other asset), then they will have to bargain for it against each other. Hence the final "gaia value" of each asset is not necessarily the initial minimum price set by the incumbent state. As a piece of land (or other asset) appreciates beyond the initial price, the minimum price of other resources in that state has to drop by the corresponding total amount. Otherwise there would be an incentive for initial unbalanced pricing. (It could be a good strategy to always leave some pieces of land for free for auction in order to leave more "defenses" for strategically important areas.) These relative rates of depreciation of different types of resources would probably have to be determined together with the initial minimum prices to make the auction work efficiently and predictably. By default, all other minimum prices would drop by the same percentage.

Additionally, before the auction, groups of people (of a minimum size, e.g. 10 000 people) can always choose to leave their states and "spin off" their own state. Just like states that are the target of emigration, these new states now receive 100 gaias per establisher from the states they are leaving to bargain for the land for their new state. In this way, people can always "opt out" of a system they don't

2851 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

2852 See: "1.1.7 Ownership as a Bundle of Rights".

2853 See: "4.3.1.3 Practical Challenges: Fair Valuation and Assessment of the Replacement Costs of Improvements and Other Owner-Created Value".

support – especially minorities that would have no chance of influencing the government in a democracy – even if no country would be willing to accept them (e.g. because their country didn't have enough natural resources to make them lucrative immigrants). No limits to opting out – i.e. emigrating to other states or establishing new states – would be all that would be required to prevent oppression.

It might seem tempting to ban immigration limitations, but then we could at least not demand that immigrants be given any political power in the target country (against the will of the current population) – i.e. we could definitely not force countries to be democratic. Why? Because if we did, then any minority willing to detach itself from a larger state could always be "recaptured" (and again oppressed) by the majority immigrating to the new minority state (abandoning the previous state). And, in any case, immigrants could always be "re-rejected" by the incumbent citizens deciding to detach and establish a new state. Hence, trying to force states to accept any immigrant would not be a working solution.

This leaves the problem that people living in states with little natural resources per person would be quite unwanted immigrants. As mentioned, the upside is that this gives citizens the incentive to ensure that their state cares for its natural resources and to emigrate as fast as possible if it doesn't. The downside is that being born into a natural-asset-poor state would be tough luck. However, it is still always more "profitable" for a state to grow its population through immigration or e.g. adoption from overseas than through local reproduction – as long as the immigrants can be expected to live peacefully in the society.

Is this model likely to lead to cultural segregation? Very likely yes – at least in some cases. As in cities, the fact that people tend to want to have at least some people of similar culture around themselves, tends to lead to even sharp segregation.[2854] But the outcome is unlikely to be any worse than with current nation states. For example, this could allow ending many of the tribal conflicts and other civil wars in Africa, where borders are mainly drawn according to former colonial division, instead of culturally coherence between tribes. People who wish to live in culturally versatile environments would create such states, but only if their political ideologies are compatible enough to allow them to agree on the same rules. Political stance would be a much more decisive criterion for drawing borders and granting political influence than e.g. language, musical heritage or cuisine. States can of course also increase cultural interaction by eagerly granting work permits and travel visas to non-citizens.

Moreover, this would finally show whether people actually want democracy and whether it works. It is likely that many states would give up parliamentarism and other forms of representative democracy – as it is not a very efficient way of making a decision or ensuring a fair society[2855] – and instead choose to be lead by benevolent dictators or a meritocracy. Or they might come up with their own innovative ways of making governance "customer-centric" and giving people a chance to affect their environment. Governance would likely be implemented very differently with varying forms of democracy combined on local and regional levels.

One problem is of course how to divide resources initially. A massive "clean-sheet auction" where people form states according to their political ideologies and then these states auction with 100 gaias per person for all available pieces of land might be quite a heavy process. Alternatively, we could just start from the current nation states and give people the rights to establish their new states, which of course is a very uneven starting point in terms of natural resources distribution – but at least that would not be a move towards more inequality from the current situation.

And on the other hand, would e.g. people in Singapore be much worse off than Finns? Singapore has less land, with fewer natural resources, but the land is very valuable due to the high concentration of people, developed infrastructure and the resulting vibrant economy. E.g. Norwegians would still have quite an advantage and would likely be quite reluctant to accept many immigrants, as they have little to gain.

The final problem that remains is the first one of the fundamental imperfections of a "free market", externality effects that cannot be isolated:[2856] flowing waters in rivers, fish populations moving between sea areas and, most notoriously, the global climate. Some nations could still impose costs on others' natural resources without asking their permission. Of course owners of sea areas would have an incentive to cooperate to maximize long-term fish yields as this would raise "the gaia market value" of the sea – or opt out if a cooperation was not achievable.

However, states living upstream of a river would have no incentive to keep the water clean for states holding the down stream. Rather, polluting the water (imposing an externality cost downstream) would make it cheaper to capture the whole river if such an expansion was in the state's interests. The result is that it is worth "buying" the downstream only for a state that is also holding the

2854 "Segregation", NetLogo Models Library: Sample Models/Social Science, tested 22.7.2103, http://ccl.northwestern.edu/netlogo/models/Segregation

2855 See: "6.3.2 Appendix 3.2: The Challenges with Democracy".
2856 See: "1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land".

upstream or has a position to negotiate (or a very trusting and friendly relationship) with the state holding the upstream.

And the climate? Avoiding the threats of human-induced climate change would require cooperation from all parties, and if some just don't want to "believe in" the threats of climate change (as people are masters at justifying their actions, say), no one could really stop them from using fossil fuels except by buying the resources off them – which would be a very expensive move if they themselves did not intend to use them. This would, in fact, give every state the incentive to blackmail other states with e.g. the use of fossil fuels to get a better gaia price for their land or receive other economic benefits. It is rather impossible to price the effects of such externalities fairly, as they cannot be known exactly beforehand – even though, in the case of fossil fuels, the price is likely to be close to infinite.[2858] Of course, if states of "non-believers" were small enough, the risk and costs of economic exclusion by other countries could be big enough to make such blackmail and opportunism unprofitable.

This idea of competing governance forms and this kind of "gaia trade" might work even better in the context of *seasteading*: the idea of building floating cities on oceans to allow experimenting with new legal and economic systems. In the "Floating City Project" design made by DeltaSync for The Seasteading Institute,[2859] components can be detached and rearranged – allowing "land" to be moved with citizens joining other "seastead city states". The dynamics of the "real estate market" in such a system would be quite different to those of cities built on land although platforms can still gain "location" value when surrounded by a rising number of other platforms and this location value still cannot be produced by owners of the individual platforms.[2860]

The above was just one very far-fetched thought experiment for inspiration. It is a "useful utopia" (as e.g. Thomas Piketty (2013) calls his idea of a "global wealth tax"). Even when we are stuck with nationalist democratic countries, Fixing the Root Bug would be an effective way of preventing extortion through private monopolies, and it would grant much better chances of international cooperation to prevent externality effects, by eliminating the need for the economy war between nations.[2861]

But this example raises some other questions. Take this one: If the idea behind the United States is really to defend people's "freedom" or "liberty", is a federal government really useful for that end at all? Wouldn't it maximize people's liberty to let them choose between different states that would be as autonomous as possible? Giving people the chance to "opt out" of any state that didn't work for them, instead of making them choose between two parties, whose policies aren't that different in the end? Unless, of course, the whole concept of "liberty" inseparably includes the necessity to oppress other nations either militarily or economically,[2862] which understandably requires vast economic resources that only a large federation with a big budget can provide.

2857 See: "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion".

2858 See: "3.4.1 Global Warming and Dependence on Fossil Fuels".

2859 "Floating city project", The Seasteading Institute, cited 10.5.2014, http://www.seasteading.org/floating-city-project/

2860 See: "4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding".

2861 See: "3.3.1 Solving Poverty for Good – Ending the Economy War".

2862 See: "2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further" and "3.3.5 Resource Wars and Sustained Political Instability".

6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive

In short:

- *Some like to distinguish "creative" or "productive" economic activities – activities that increase the total value produced or total consumable income available – from "distributive" activities – activities that only transfer income or value from some to others.*

- *Distributive activities will always exist in a market economy with uncertainty and where incentives and penalties have to be imposed to maintain trust. Excessive, wasteful distributive activity can be minimized by minimizing rent-seeking opportunities and other game-theoretical incentive traps and threats that encourage "arms races".*

- *Unlike popularly perceived, marketing and sales as well as the financial and investment markets are very productive – or at least could be. Currently, unnecessary subsidies and other rent-seeking opportunities have made the financial market much less productive than it is profitable.*

"There are two fundamentally opposed means whereby man, requiring sustenance, is impelled to obtain the necessary means for satisfying his desires. These are work and robbery, one's own labor and the forcible appropriation of the labor of others." – Franz Oppenheimer, The State (1908, p. 24)

"In the year 1930, John Maynard Keynes predicted that, by century's end, technology would have advanced sufficiently that countries like Great Britain or the United States would have achieved a 15-hour work week. There's every reason to believe he was right. In technological terms, we are quite capable of this. And yet it didn't happen. Instead, technology has been marshaled, if anything, to figure out ways to make us all work more. In order to achieve this, jobs have had to be created that are, effectively, pointless. Huge swathes of people, in Europe and North America in particular, spend their entire working lives performing tasks they secretly believe do not really need to be performed. The moral and spiritual damage that comes from this situation is profound. It is a scar across our collective soul. Yet virtually no one talks about it." … "It's as if someone were out there making up pointless jobs just for the sake of keeping us all working. And here, precisely, lies the mystery. In capitalism, this is precisely what is not supposed to happen." – David Graeber, On the Phenomenon of Bullshit Jobs.

"But von Mises – among many other things – I think, uses an analogy, which is probably the best justification and explanation for the value of marketing, the value of perceived value, and the fact that we should actually treat it to be absolutely equivalent with any other kind of value." … "He says, if you run a restaurant there is no healthy distinction to be made between the value you create by cooking the food and the value you create by sweeping the floor. One of them creates perhaps the primary product, the thing we think we're paying for, the other one creates a context within which we can enjoy and appreciate that product. And the idea that one of them should actually have priority over the other is fundamentally wrong." … "Now, if your perception's much worse than your reality, what on Earth are you doing trying to change the reality? That's like trying to improve the food in a restaurant that stinks." – Rory Sutherland, Perspective is everything[2863]

"2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" explained how the policies of governments – and in fact most election campaigns and debates – are nowadays focused on creating jobs, work. If nothing else, hopefully this book has managed to get

2863 14:08-> & 16:28->, Sutherland, Rory, 2011, "Perspective is everything", TED Talk, viewed 21.1.2014, http://www.ted.com/talks/rory_sutherland_perspective_is_everything.html

the reader to question whether this makes any sense whatsoever. The author sees no sense in refraining from buying a dishwashing machine or "stimulating" people to eat seven-course meals just to maintain the same amount of dishwashing shifts for everyone.

However, many argue that, even if public policies weren't focused on creating employment, the market economy currently produces a lot of pointless, wholly unproductive work. David Graeber is one to make this claim:

> "In fact, I'm not sure I've ever met a corporate lawyer who didn't think their job was bullshit. The same goes for almost all the new industries outlined above. There is a whole class of salaried professionals that, should you meet them at parties and admit that you do something that might be considered interesting (an anthropologist, for example), will want to avoid even discussing their line of work entirely. Give them a few drinks, and they will launch into tirades about how pointless and stupid their job really is." ... "Again, an objective measure [of social value] is hard to find, but one easy way to get a sense is to ask: what would happen were this entire class of people to simply disappear? Say what you like about nurses, garbage collectors, or mechanics, it's obvious that were they to vanish in a puff of smoke, the results would be immediate and catastrophic. A world without teachers or dock-workers would soon be in trouble, and even one without science fiction writers or ska musicians would clearly be a lesser place. It's not entirely clear how humanity would suffer were all private equity CEOs, lobbyists, PR researchers, actuaries, telemarketers, bailiffs or legal consultants to similarly vanish. (Many suspect it might markedly improve.)"[2864]

Roger Bootle and many others like to distinguish between "creative activities" – activities that increase "the net real income available for consumption" – and "distributive activities", i.e. activities "involved with winning and increasing share of income at the expense of others."[2865] We'll call them "productive activities" instead of "creative" from here on in order not to confuse the term with the more specific case of coming up with new *ideas*. We could expand this concept of "productive activities" into activities that increase the net *value produced* in the economy, so that products becoming cheaper or free (the share of value the producer himself captures decreasing) does not reduce the "productivity" of the activity. (For some problems with value and qualitative productivity measurements, see the Google Translate case in "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!")

Some almost purely distributive activity is necessary for maintaining order and facilitating productive activity – regardless of whether we operate in a state-run system or anarcho-capitalism. For example, when viewed case-by-case, the law enforcement, judicial and penal systems are mainly distributive. No one gains directly when detectives and crime scene investigators solve homicides, when the police arrests criminals, when judges evaluate evidence or when prisons guard and feed convicts. But, although none of the individual actions in these systems produce any additional value as such, the existence of these distributive systems facilitates much more productive cooperation in productive activities – by maintaining trust in other people following the rules and sticking to made contracts.[2866] Their existence removes harmful incentive traps and changes the game-theoretical setting so that cooperation becomes more viable. Nevertheless, *additional legal activity* does not increase the total value produced in the whole economy, but is practically a net cost. In fact, a perfect judicial and penal system would be one that never needs to be used!

So, does our market economy – especially one becoming "richer" and more productive – create more and more distributive tasks, as Adair Turner argues (see footnote 2865)? Yes. When there are profitable opportunities for "rent-seeking", i.e. "resource-wasting activities of individuals and groups seeking wealth transfers". (Pasour 1987) "4.3.1.1 Land – One Mother of a Monopoly" explained how the private, untaxed ownership of limited natural resources provides a massive platform for rent-seeking. And this situation should be assessed by making the state essentially a common ownership vehicle for such unavoidable rent-seeking tools.

But instead, the democratic state has become a parallel rent-seeking vessel in itself – a tool for interest groups to "steal" from each other through taxation and transfer payments in all their forms.[2867] This redistributive war, which keeps most politicians busy, together with the need to "create jobs" in order to appeal to voters concerned for unemployment, has also resulted in increasingly complex legal systems with many unnecessary regulations and a taxation system with exceptions on exemptions. And this labyrinth, which in many countries is now near impossible for a single human being to grasp in its entirety, works

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2864 Graeber, David, "On the Phenomenon of Bullshit Jobs", Strike Magazine, 17th Aug 2013, cited 24.8.2013, http://www.strikemag.org/bullshit-jobs/

2865 34:25->, Turner, Adair, "Lionel Robbins Memorial Lectures 2010 – Economic Growth, Human Welfare and Inequality", 11th Oct 2010, cited 24.8.2013, http://www.youtube.com/watch?v=IhvVxM-Idf8

2866 This is *not* to say that these specific institutions (e.g. incarseration as a form of punishment) would be the best possible ones for maintaining such trust.

2867 See: "6.3.2 Appendix 3.2: The Challenges with Democracy" and "2.2.3.4 Social Support and Other Transfer Payments – Robin Hood Politics"

further to create employment for lawyers and tax advisors by providing yet more redistributive opportunities that require higher and more specialized skills to tap.

The regulatory "arms race" between the financial sector and authorities is just one example of this.[2868] Furthermore, intellectual property rights can be used to limit competition – making it a redistributive activity with no net benefit to the society, unlike competing with product or process innovation (the encouragement of which was the original purpose of patents). And because such hostile actions by competitors are possible, this also obliges companies to engage in expansive *defensive* legal actions: e.g. acquiring patent portfolios only to protect a company's ability to continue operating.[2869] Just like in arms races between militaristic super powers, both parties lose (and their military organizations win).[2870] Graeber – for a trade union advocate[2871] – actually has a valid point when it comes to the "pointlessness" of the jobs of many corporate lawyers in today's world.

Without the excuse of the necessity to "create jobs", the legal and taxation systems could be simplified significantly, reducing the need for legal advisory and manual accounting work.[2872] The job creation excuse no longer applies for transfer payments either (e.g. public support to corporations and tax exemptions on certain products or to certain industries). As a result, the public sector can be downsized and also political rent-seeking could be reduced.[2873] And, as explained in the respective chapters, imposing a price on the government deposit guarantee would allow a very cost-efficient, market-based bank regulation mechanism – putting the focus back on productive risk management – and taxing patents according to market value would reduce the profitability of hostile and defensive R&D and legal actions.

Of course, companies will still be competing organizational forms in a constant death match against each other, using any means available. Hence, corporate lawyers will surely be needed. Mergers and acquisitions will still take place and require legal and contractual advice. Also, for example anti-trust laws and anti-cartel regulation will be needed to prevent unfairly monopolistic positions from emerging and there will remain a need for lawyers in settling such disputes. Such redistributive functions are necessary for the system to operate – but not even closely in the extent that they have currently taken.

Many people (like Graeber and Lord Adair Turner) like to consider the marketing activities of companies and the whole financial investment market to be mostly distributive functions. And, yes they have distributive qualities and, yes, after a point, increased activity in either might start having a negative net social product. But I will attempt to explain here, how both of these activities are (or at least could be) actually net productive – beyond the way in which the existence of legal and penal systems is necessary (as a "hygiene factor").

As Peter Drucker, the father of business consulting famously has noted:

> "Because the purpose of business is to create a customer, the business enterprise has two – and only two – basic functions: marketing and innovation. Marketing and innovation produce results; all the rest are costs. Marketing is the distinguishing, unique function of the business."[2874]

For a company, innovation and marketing are the only value producing activities and everything else – production, procurement, accounting, finance etc. – are *costs* that should be mitigated. Firstly, it is important to emphasize that "marketing", in business terms, does not only include company's promotional activities like advertising, but also includes the design of the company's product offering, pricing and how the product is distributed – made available to consumers. Secondly, this is of course from the perspective of one company and what might be "productive" for one company, might not be directly productive for the whole economy – for example allowing it to grab a higher market share or blocking competition to increase margins.

But marketing, on the whole, does actually create customer value – even the promotional part. The *awareness* of company A's higher value offering compared to company B's offering is value producing for customers. No product has any value unless someone is aware of its properties. Invention without marketing is quite useless. It only turns into "innovation" when it is adopted into use – and this always requires one form of marketing or another.

2868 See: "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking".
2869 See: "4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies".
2870 See: "3.3.5 Resource Wars and Sustained Political Instability".
2871 See: "3.2.3 Unionization and Strikes".
2872 See: "2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!" and "6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model".
2873 Of course, there is the risk that if people don't understand the Root Bug and the pointlesseness of job creation and transfer payments, the more efficient, less trend-vulnerable taxation system could be used by fanatic socialists to increase the size of the state and transfer payments – a means for the majority to oppress minorities and also do harm to themselves. See: "6.3.2 Appendix 3.2: The Challenges with Democracy".

2874 Trout, Jack, "Drucker on Marketing", Forbes, 3rd Sep 2006, cited 26.8.2013, http://www.forbes.com/2006/06/30/jack-trout-on-marketing-cx_jt_0703drucker.html

Also the fact that companies create "perceived value" with e.g. image marketing is seen by many as unproductive or even deceitful. But as explained in "1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion", all value *is* perceived! If a company manages to infuse a product with values, emotional associations or symbolic power that make the user find them more desirable or allow them to use the product to build their identities, it is just as much real value – if not more so – than for example the person enjoying the products taste, benefitting from its ease of use or becoming more healthy due to its nutritional content.

The value of entertainment goods like music or movies is for the most part created by marketing and hype. In many cases, the product itself *is* very much like an addictive advertisement, which people just want to hear or see again and again – for example a song played on radio. The debate over the value of the "creation of wants" and the critique of "consumerism" is discussed in more detail in this book's sister "The Guilt Economy."

The creation of new "wants" by companies is in fact one of the most "productive" forms of marketing: Creating awareness of a need and a solution is what allows creating value by fulfilling the need with that solution. It is only distributive for the part that it cannibalizes other consumption. It is also noteworthy that marketing and sales mostly do redistribute revenues (income streams) *between companies* – competing organizational forms[2875] – and this does not translate into an equal amount of redistribution between people – for example employees or investors – in the longer run: People who previously worked in company B can move to work for company A as it grabs market share. Investors usually hold diversified portfolios of the companies they believe in.

In sectors with high benefits of scale and low unit production costs – it becomes more profitable to invest large sums in acquiring new clients. TV channel packages and newspapers are some examples. The heavy use of telemarketing is one "symptom" of such characteristics (low unit costs) in other industries as well. When, additionally, the product or service provided is highly commoditized – there is little product innovation and low qualitative differentiation between providers and the market is "mature" in that there is little room for further expanding it – such marketing activities can be very distributive.

The heavy mass promotion and ruthless competition between mobile operators is one example of this. If it weren't for fast technological progress, it could be worth considering whether the industry might work more efficiently in public ownership[2876] than with parallel networks spending significant sums into simply buying over customers with fairly commoditized services – mainly differing in pricing arrangements. However, when an industry does not work better in public ownership, it is more fair that the high redistributive marketing keeps competition fair and prices in check – even if it were to produce net negative value – than that a private monopoly is allowed to keep prices ridiculously high and thereby redistribute large amounts of income to its shareholders from the rest of the economy (e.g. like mobile operators could before it was made obligatory to allow transfers of phone numbers to other operators free of charge).

Charities are also of a very distributive nature.[2877] And charity is a morally hazardous "industry" in that the share of the donated money actually going to the official cause – its "unit costs" – can technically be as small as the charity chooses. Dan Pallotta makes the claim that people should not worry about the overhead costs of charities, as the total funds they manage to raise should be what matters and the focus should be on making the whole "charity pie" bigger.

> "Who cares if the bake sale only has 5 percent overhead if it's tiny? What if the bake sale only netted $71 dollars for charity because it made no investment in scale and the professional fundraising enterprise [with 40 % overhead] netted $71 million because it did?"[2878]

And he has two good points in that (1) the marketing activities of charities are not purely costs as they spread awareness of a problem in question and that (2) it is quite hypocritical that, in our morality, it is ok to make a lot of money by e.g. selling video games, but not by helping others (although the latter argument is questionable in the case of charities, where these profits are made from donations). But how sure can we be that the bigger pie that one charity achieves with its marketing activities is "new money into charity", increasing the whole "charity pie" *and not* cannibalizing the sums that would otherwise be donated to other charities? And even so, the whole idea of charity, when it works, is to *redistribute* money to others or

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2875 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

2876 Assuming no public sector responsibility or incentive to do things or avoid change just to provide employment. See: "3.1.8 Public Sector Inefficiency" and "4.3.4 Making Natural Monopoly Industries Sources of Public Revenue".

2877 See: "5.1.4 Institutional Interests – Rogue Agents without a Principal".

2878 15:17->, Pallotta, Dan, 2013, "The way we think about charity is dead wrong", TED Talk, viewed 17.7.2013, http://www.ted.com/playlists/91/everything_you_thought_was.html

other causes without providing any value to the donator in return – other than an increased sense of contribution and self-worth.[2879]

What about the financial and investment market? The function of financial markets is to direct capital and investments into areas where they have the best profit potential. It is very easy to confuse this *allocation of resources* – especially of risk-carrying capacity – to the *redistribution* of produced value or consumable income. Assessing the need for different investments is in fact very productive! Investors try to predict (1) the value different goods and services might have to users (or more precisely, the demand[2880] there will be for the goods), (2) which technologies (and organizational forms[2881]) are most suitable for producing them and (3) where resources can create the most value. It is very costly and wasteful to invest labor or natural resources into producing goods (and building new production capacity to produce goods) that no one really values as much as they cost to produce. Similarly, it is wasteful to develop a technology that is likely to become obsolete in a few years. People's preferences and technological progress in the future can never be predicted with absolute certainty, and therefore someone needs to carry the risks of the estimates going wrong or the investments themselves failing. And that someone needs to have the incentive to minimize such losses in relation to potential returns. Carrying risks and assessing the potential and feasibility of investments is productive.

Opportunistic investment strategies focused on shorter-term holdings of assets are more distributive in nature – they allow investors to make fast profits on the expense of other investors. But this "trading", too, (when there is no unfair information advantages, like there is e.g. in *insider trading*[2882]) is a part of the incentive system that encourages investors to assess the potentials of different investment opportunities realistically and makes the pricing of assets more efficient. More importantly, it increases liquidity in the investment market, as a result of which investing does not require one to forgo the liquidity of one's assets completely and commit to not spending one's savings for decades.

Some forms of opportunistic short-term investment is highly value-producing as well. This includes splitting or merging unprofitable companies into more efficient combinations before selling them on to more long-term-oriented investors, or "asset stripping" them to use their assets in more profitable ways.[2883] Such activities tend to have a very bad reputation, as they often "destroy jobs".[2884] But this would not be a problem in a root-debugged economy where there is always competition over employees, regardless of the total demand for labor. Those employees would soon find work in other industries or in competing companies, which would capture the disbanded company's market.

However, the investment market is similar to the legal and judicial systems in that "more is not always better"! It is more productive to have a small investment market of skillful analytics and bankers than a massive market of slightly worse ones. Also, e.g. Luigi Zingales presents a lot of evidence that "without proper rules, finance can easily degenerate into a rent-seeking activity." (Zingales 2015)

It is noteworthy that the net profit made by the investment market is determined by the value it manages to capture from the real economy and when there is too much financial capital seeking too few real investment opportunities, what should happen is that interest rates should go down to reduce the profitability of saving which should reduce the supplied amount of capital (savings) and the return on that capital. This should also reduce the amount of players (banks, funds etc.) that can profitably operate in the investment market and the amount of people they can afford to employ. Currently this does not happen, because interest rates have their zero lower bound – capital has its minimum wage[2885] – and the financial sector remains disproportionately large in comparison to the real economy, by both profits and number of employees.

Of course insider trading, speculation and especially big or otherwise widely followed (due to e.g. popularity) investors inducing short-term shifts in the market to their advantage increase the distributive opportunities between investors, but investors operating in the market know about such possibilities and can refrain from partaking in markets where they know they are disadvantaged in terms of knowledge or ability to influence market prices – a bit like a professional poker player carefully chooses his tables. Eventually speculators taking too high risks will be

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2879 Or, rather, alleviated guilt. More on the problems with the whole charity institution and ethic – e.g. how it often has an interest in maintaining its "enemy" and little incentive to question its long run effectiveness in "The Guilt Economy."

2880 "Demand" is the amount that can be sold as the function of price – also takes into consideration the purchasing power of the potential market. See: "1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand".

2881 See: "1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'".

2882 "Insider trading", definition, Investopedia, cited 8.6.2014, http://www.investopedia.com/terms/i/insidertrading.asp

2883 See: "1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks".

2884 There are loads of movies depicting such opportunistic businessmen as henchmen of the devil himself, e.g. Edward Lewis, Richard Gere's character in Pretty Woman and Gordon Gekko of Wall Street.

2885 See: "1.1.8 Labor and Capital (and Land?) – The Factors of Production" and "4.2.1.1 The ZLB Is the Minimum Wage of Capital, Nominally Maintained by Physical Cash".

punished with variance and those operating in markets where they have an information disadvantage will be outplayed by that disadvantage. When the net costs of this speculation and other "internal rent-seeking" start exceeding the value the produced analysis of investment opportunities produces, the resulting bankruptcies and sport-off capital should start decreasing speculation and downsizing the financial sector – as long as investors have to carry their own risks!

The bigger problems start when (1) rent-seeking is possible by imposing costs and risks onto outsiders (people not involved in the financial transaction) or (2) when there are rent-seeking investment options in the real economy.

The latter (2) cases include especially (a) the current real estate markets with untaxed land ownership, (b) the private ownership of natural monopoly industries, (c) cases where profit opportunities (and hence stock prices) can be significantly influenced through political decisions (or e.g. legislation that facilitates monopolies, provides subsidies or directs large public procurement projects) and (d) some industries with significant incentive traps, like situations where companies have both the interest and the possibility to maintain – or even enhance – problems. This includes the pharmaceutical and medical industries which are often paid per procedure, which gives them the incentive to keep people ill and do unnecessary procedures), the U.S. private prison industry (which is paid per inmate per year, which gives it the incentive to keep inmates as criminal as possible – actually *make* repeat offenders, instead of being truly *correctional*) and the arms industry (which has political influence on starting wars and spurring arms races[2886]). The two first issues, a) and b), were discussed in "4.3 Eliminating Private Monopolies and (Other) Privileges". Mitigating c) and d) are subjects of different books (as if the scope of this book wasn't already way too broad for one).

The former (1) is the result of (i) the too-big-to-fail problem of the financial sector (and some other big corporations), which requires that the real economy is made self-stabilizing enough to allow any company to go bankrupt, and (ii) the free bank deposit insurance, which makes it profitable for banks to overleverage themselves. The easy steps to solving these issues were presented in "3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking" and "4.2.2 Setting a Fee on the Government Deposit Guarantee".

And let's repeat that the main cause of the large relative size of the financial sector is the fact that we have a massive oversupply of capital, due to the zero lower bound (the minimum wage of capital) and the free deposit guarantee (a direct subsidy to unemployed capital). If these problems were eliminated, the resulting lower profits on capital would make it more lucrative for institutions and individual investors to spend off some of this surplus – or at least invest in something real.

For litigation and other judicial activity, it can be said that "the less, the better." This cannot be said for marketing and finance. To sum up, distributive activities will always exist in a market economy with uncertainty and where incentives and penalties have to be imposed to maintain trust. Excessive, wasteful distributive activity can be minimized by minimizing rent-seeking opportunities.

2886: See: "3.3.5 Resource Wars and Sustained Political Instability" and "5.1.4 Institutional Interests – Rogue Agents without a Principal".

6.4 APPENDIX 4: READING GUIDES

This book is not one for a single sitting – at least not the whole of it. It is intended to put matters into context and perspective. Because everything is related and interconnected (the cross-referencing is quite heavy), the six parts of this book would not work very well as standalone books.

But fortunately the book is *modular* in structure and each reader can pick the sections and chapters she finds most interesting. As chapter titles are mostly "action titles" (they attempt to include the main message of the chapter), reading through the table of contents will allow anyone to mark the bits one finds most interesting. After that, the cross-references will help in proceeding to the next matter of interest. In some cases, the "in short" summaries might be enough to clarify the main points. If not or if you need more profound argumentation and references to believe the points, read the whole chapter.

Following are some recommended chapters for people with different backgrounds and areas of interest.

A person wanting **to revolutionize her worldview** and conceptions of life and humanity:

- 1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion
- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 2.1 Normative Principles – What Do We Want from an Economic System?
- 2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!
- 3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility
- 5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness
- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
- 6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison
- 6.3.2 Appendix 3.2: The Challenges with Democracy

A welfare state advocate:

- 1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion
- 1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy
- 1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand
- 1.1.8 Labor and Capital (and Land?) – The Factors of Production
- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage
- 2.1 Normative Principles – What Do We Want from an Economic System?
- 2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)
- 2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!
- 3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?
- 3.2 Local Social Issues
- 4.1.1.1 Forms of Employment Flexibility
- 4.1.3.4 Layoff Penalties Are Hiring Costs – The 'Paradox' of Reduction Restrictions

- 4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability
- 4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free"
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness
- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
- 6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model
- 6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives
- 6.2.5 Appendix 2.5: The Tyranny of Jobs
- 6.3.2 Appendix 3.2: The Challenges with Democracy

A libertarian possibly sympathizing with Austrian economics:

- 1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion
- 1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy
- 1.1.7 Ownership as a Bundle of Rights
- 1.1.8 Labor and Capital (and Land?) – The Factors of Production
- 1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land
- 1.2 Credit, Money and Banking
- 1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money
- 2.1.1 The Libertarian Maxim of Freedom and the Paradox of Choice
- 2.2.2 Market-Dictated, 'Sound' Commodity Money – Austrian perspectives
- 2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)
- 2.3.4 Supply and Demand Could Best Match Earning Opportunities – Just Fix the Imperfections
- 3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence
- 3.1.8 Public Sector Inefficiency
- 3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility
- 3.4 Environmental Sustainability
- 3.5 A Competitive Option and Dominating Strategy
- 4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding
- 4.3.2 A Market Value Tax on Patents – Minimizing the Negative Externalities of Technology Monopolies
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 5.2.4 The Religious Nature of Economics and Politics
- 6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness
- 6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest
- 6.3.2 Appendix 3.2: The Challenges with Democracy

An anti-capitalist who wants to know what money, capital and the "market forces" are really about:

- 1.1 Value, Production and Markets
- 1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth
- 1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'
- 1.2.7 Banks Need to Be Private Because Risk Has a Market Price
- 1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'
- 2.1 Normative Principles – What Do We Want from an Economic System?
- 2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)
- 2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!
- 2.3.4 Supply and Demand Could Best Match Earning Opportunities – Just Fix the Imperfections

- 2.3.5 Structure of the Root Bug Hypothesis
- 3.1.2 Other Scapegoats for the Mystical Growth Dependence
- 3.1.3 Structural, Friction and Classical Unemployment, NAIRU and Hysteresis – Is 5 % Unemployment Really Necessary?
- 3.1.8 Public Sector InefficiencyLocal Social Issues
- 3.2 Local Social Issues
- 3.3 Global Social Issues
- 3.4 Environmental Sustainability
- 4.1.5 Guaranteeing Security While Avoiding Welfare Bumming: Economic Freedom Need Not Be Free
- 4.3 Eliminating Private Monopolies and (Other) Privileges
- 5.1.1 Our Emotional Attachment to Words
- 5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness
- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
- 6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison
- 6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest
- 6.3.2 Appendix 3.2: The Challenges with Democracy
- 6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive

An environmentalist wanting to stop the climate change and protect biodiversity:

- 1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy
- 1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand
- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land
- 1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'
- 1.2.7 Banks Need to Be Private Because Risk Has a Market Price
- 1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'
- 2.1 Normative Principles – What Do We Want from an Economic System?
- 2.2.4 Ecological Economics – Putting Economics into the Eco-Box
- 2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder
- 2.3.1 The Job Creation Paradigm – Why Are We Trying to Make More Work?!
- 2.3.5 Structure of the Root Bug Hypothesis
- 3.1.2 Other Scapegoats for the Mystical Growth Dependence
- 3.3.2 Famines and Overpopulation
- 3.3.5 Resource Wars and Sustained Political Instability
- 3.4 Environmental Sustainability
- 3.5 A Competitive Option and Dominating Strategy
- 4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding
- 4.3.3 Other Natural Resources, Renewable or Non-Vital
- 5.2.1 The Personal Nature and Incentive Traps of Academia
- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
- 6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments
- 6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources

A human rights activist wanting solve global inequities and preempt future humanitarian problems:

- 1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress
- 1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion
- 1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units
- 1.1.5 We Need a Market Economy Because of the Limitedness of Understanding and Empathy
- 1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand
- 1.1.8 Labor and Capital (and Land?) – The Factors of Production
- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land
- 1.2.3 Money as Credit – Real Wealth vs. Virtual/Fiduciary Wealth
- 1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'
- 1.3.2 In a Closed Economy, Net Monetary Wealth Is Zero – Total Real Wealth Depends on Future Consumption and Capital Intensity (and Monopolies)
- 1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage
- 2.1.5 'Rawlsianism' – Justice Through the Veil of Ignorance
- 2.1.4 Utilitarianism and Happiness Politics/Economics – Does Measuring Happiness Make Sense?
- 2.1.6 Conclusions – How about a Game Design Approach?
- 2.2.3 'Socialist' Solutions – Money for Free (i.e. Credit for Nothing)
- 2.2.5.3 Competitiveness Politics – Just Indebt Other Nations Further
- 2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest
- 2.3.5 Structure of the Root Bug Hypothesis
- 3.1.6.2 Sticky Trade Imbalances
- 3.1.6.1 Constantly Increasing Public Debt – A Taxation Model Based on Monopoly Profits, Charging for Services and Auctioning Resources
- 3.3 Global Social Issues
- 3.4.1 Global Warming and Dependence on Fossil Fuels
- 3.4.2 Biodiversity Deterioration, Destruction of Scarce Habitats, Pollution and Contamination
- 3.4.3 Unsustainable Waste Management
- 3.5 A Competitive Option and Dominating Strategy
- 4.1.2.3 Needed: a Pigovian Tax on the Externality Costs of Piling up Work on Fewer People
- 4.2.3.4 Preventing Hoarding by Foreign Investors and Central Banks
- 4.3 Eliminating Private Monopolies and (Other) Privileges
- 4.1.4 Subsidize, Deacademize and Re-Game-Design Education to Maximize Flexibility, Mobility and Adaptability
- 5.1.1 Our Emotional Attachment to Words
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 5.2.4 The Religious Nature of Economics and Politics
- 6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness
- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
- 6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest

A person wanting to understand economics and finance in order to **make better investment decisions**:

- 1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand
- 1.1.8 Labor and Capital (and Land?) – The Factors of Production

- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks
- 1.2.2 Credit – Delayed Payment Granting Chronological Flexibility
- 1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral
- 1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous
- 1.3.1 Economic Growth Is the Increase in Produced and Traded Value – The Many Meanings of 'Wealth'
- 1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage
- 1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money
- 3.1.1 Economic Instability, Cyclicity, 'Keynesian' Unemployment and Growth Dependence
- 3.1.4 Private Credit Crises, Mass Defaults and Overleverage
- 3.1.5 Too Big to Fail: The Casino Economy, 'Financialization' and Irresponsible Risks in Banking
- 3.1.6.3 The U.S. Case – Chronic Overvaluation of the Global Reserve Currency
- 3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility
- 4.3.1 Limited, Vital Resources – Tax Land to Prevent Hoarding
- 6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments
- 6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?

A business manager:

- 1.1.1 The Division of Labor – Cooperation and Sharing Information: The Philosopher's Stones of Mankind's Progress
- 1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion
- 1.1.4 Production Is for Consumption, i.e. Appreciation – 'Productivity' Has Many Units
- 1.1.6 The 'Market Forces' – How Prices Balance Supply and Demand
- 1.1.8 Labor and Capital (and Land?) – The Factors of Production
- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 1.1.10 Companies as Contract Bundles – Financial Assets Allocate Risks
- 1.2.2 Credit – Delayed Payment Granting Chronological Flexibility
- 2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest
- 3.1.7 Incentive Trap for Grassroots-Level Innovation
- 3.1.8 Public Sector Inefficiency
- 3.2.1 Maximal Economic Security with Maximal Flexibility – Flexicurity and Antifragility
- 3.2.7 Encouraging and Facilitating Entrepreneurship and Creative Productivity
- 3.5 A Competitive Option and Dominating Strategy
- 4.1.1.1 Forms of Employment Flexibility
- 4.1.2.1 Why Sharing Work Is Currently Not Profitable or Otherwise Viable
- 4.1.2.2 Removing Legal Barriers and Policy-Created Fixed Costs
- 4.1.6.1 Technological Advances Increasing Flexibility
- 4.1.6.2 Making Sharing Work Socially Acceptable
- 5.1.1 Our Emotional Attachment to Words
- 5.1.2 The Misleading Conceptual Metaphor of Money as Items or Substance
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 6.1.1 Appendix 1.1: Happiness Is Appreciating – A Framework of Happiness
- 6.1.2 Appendix 1.2: Different Types of Value Products Provide

- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
- 6.3.2 Appendix 3.2: The Challenges with Democracy
- 6.1.4 Appendix 1.4: The Conundrum of Causality – The Culprit Depends on Comparison
- 6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives
- 6.3.4 Appendix 3.4: Productive vs. Distributive Activity – How e.g. Marketing and Finance Are Productive

A game designer wanting ideas for e.g. strategy games:

- 1.1 Value, Production and Markets
- 1.2.5 The Two Denominators of Currencies and Other Financial Instruments: the Reference Resource(s) and the Collateral
- 1.2.6 Banking: Accounting for Debts and Credits and Pricing Risks – There Is No 'Fractional Reserve'
- 1.2.8 The Supply of Money Is Infinitely Interest-Rate-Elastic – The Money Supply Is Endogenous
- 1.3.3 The Circular Flow of Income – Consumption, Saving and Investing
- 1.3.4 Foreign Trade: Current Accounts Are Also a Zero-Sum Game – Comparative Advantage vs. Absolute Advantage"
- 2.1.6 Conclusions – How about a Game Design Approach?
- 2.2.5 Mainstream Economic Solutions – Increase Spending or Compete Harder
- 2.3.2 The Overlooked Option – Increase Correlation of Earning Opportunities with People's Willingness to Spend and Invest
- 3.1 Economic Stability and Prosperity
- 3.3.1 Solving Poverty for Good – Ending the Economy War
- 3.4.1 Global Warming and Dependence on Fossil Fuels
- 3.5 A Competitive Option and Dominating Strategy
- 5.1.4 Institutional Interests – Rogue Agents without a Principal
- 5.2.1 The Personal Nature and Incentive Traps of Academia
- 6.1.5 Appendix 1.5: Derivatives and Other Financial Instruments
- 6.3.1 Appendix 3.1: The Deontological Libertarian Dream: Neofeudalism or Survival of the Fittest
- 6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources

A mainstream **economic researcher** wanting to expand horizons:

- 1.1.3 Value Is Subjective and Perceived – Rationality Is Largely an Illusion
- 1.1.7 Ownership as a Bundle of Rights
- 1.1.9 Companies as Competing Organizational Forms (Because Institutions Suck at Suicide) – 'Pro-Business' Is Not 'Pro-Market'
- 1.1.11 The Fundamental Imperfections of a 'Free Market' – Externalities and the Limitedness of Land
- 1.2 Credit, Money and Banking
- 1.3.5 Inflation Is the Rise in the (Nominal) Price Level – And Has Little to Do with the Quantity of Money
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- 6.1.3 Appendix 1.3: A Model of the Value of Helping and Cooperation: Empathy, Contribution, Image-Boosting, Shame and Guilt
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- 6.2.2 Appendix 2.2: One Simple Version of a Competitive Taxation Model
- 6.2.3 Appendix 2.3: Effects of LVT on Land Value – The Optimal Land Tax Rate?
- 6.2.4 Appendix 2.4: Cognitive Biases Blocking New Perspectives
- 6.3.3 Appendix 3.3: A Hypothetical Alternative to Democracy: Competing Governance Forms for Natural Resources

7 REFERENCES AND INDEXES

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7.2 OTHER REFERENCES

Newspaper articles, blogposts, dictionary entries, videos, talks, statistical sources (and other sources not qualifying as academic papers, official reports or books[2887]) are cited in footnotes on the respective pages. Footnotes also include shorter sidenotes as well as cross-references to other chapters in this book.

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7.4 INDEX OF KEYWORDS AND THEMES

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"In a world of uncertainty, complex problems do not always require complex solutions."...
"You need something that works in an uncertain future – not something that is optimal in the past."

– Gerd Gigerenzer

"Doing the wrong thing right, is not nearly as good as doing the right thing wrong."

– Russ Ackoff

What if our economic system – like a faulty operating system – had a little bug that was making it unsustainable economically, socially and environmentally?

Combining different economic theories as well as recent research in many other fields (e.g. positive psychology, business strategy, finance, ecology, psycholinguistics), this book questions some taken-for-granted assumptions and presents the Root Bug hypothesis:

If earning opportunities (work) were allocated to people according to their willingness to spend and invest – instead of labor being quantized into "jobs" – and if private monopolies were eliminated, we would have an economic system that is fair, self-stabilizing, sustainable and independent of growth, while allowing just as much growth as people really want. And this market imperfection, a chronic supply-and-demand-mismatch in the labor market, could be fixed with simple incentives.

The book suggests making it the main role of government to serve as a common ownership vehicle for natural monopoly resources and industries. This would both fix the "land bug" (noted since Henry George as the main driver of economic injustice) and provide an efficient and competitive taxation model for financing the public sector – what remains of it after its roles as a waste-creating "employment machine" and "transfer payment vessel" for interest groups has been rendered unnecessary.

Take a leap down the rabbit hole into how emotional attachments to words, misleading conceptual metaphors (regarding e.g. money), self-preserving institutions as well as the religious nature of politics and economics can cause us to look past otherwise fairly obvious solution alternatives to economic cyclicity, unemployment, real estate bubbles, poverty, unfair income differences, too-big-to-fail banks, patent wars, sovereign debt crises, demographic change etc.

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